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FUNDAMENTAL CONCEPTIONS OF PSYCHIATRY NECESSARY TO INTELLIGENT PRACTICE OF MEDICINE*

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CUSTOMARY as it is for us to think of the physician as an individual who offers an essentially personal service, neither we nor the public have fully realized that a receptive and coordinated patient or group is just as necessary as the physician for a successful result in health affairs. This is particularly apparent in the acquisition and maintenance of mental health. Its pursuit leads to the very fountain head of human emotions; its goal is the evaluation of the mysterious, often intangible factors which condition mental life. Throughout its processes the undertaking should become progressively cooperative, to the end that a common viewpoint, a consciousness of the goal to be attained and of the rationale of the steps toward it, may break the resistance to education and release both the individual and the group from the blighting effects of ignorance, tradition, and prejudice.

FACTUAL KNOWLEDGE NECESSARY

In the past, the doctor, lacking factual knowledge and the assurance that goes with the mastery of fundamentals, has frequently maintained his prestige by an unwarranted assumption of finality and learning. This has often given him the appearance of being wiser than he was. Usually the less his actual knowledge the more easily he assumed its possession, doubtless rationalizing this as belonging to the art of medicine. Since the days of wonder-working magic, he has played upon the suggestibility of his patients with astonishing effectiveness, this effect being enhanced by his own intellectual and educational isolation and aloofness. He himself has often been the victim of its allurements and has failed to appreciate his limitations.

But the days of wonder-working magic are gone, with them having vanished the sanctity of the doctor, his isolation, his preemption of the field of practical psychology. Now both the individual and the group read the same books that he reads, know the same facts of life, and are asking questions that tend to upset his theories and beliefs regarding the mysterious forces that rule over our mental as well as over our physical well-being.

* Chairman's address, Neuropsychiatry Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

COÖPERATION ESSENTIAL

Today the minister of health must meet his problems at the level of the average thinker or a little above it. He must approach them with an understanding which invites coöperation, prepared to meet the questions of the "why" and "wherefore" which will assail every project. Society is now acquiring a "health consciousness" about matters of mental hygiene, nervous and mental diseases, that it has previously attained regarding problems of internal medicine and surgery. Although this consciousness is preparing the way for group coöperation, it brings to us the necessity of clarifying our concepts and establishing our theories upon a basis better understood by ourselves and more available to our co-partners. Something besides beliefs and theories which are not accepted even by our own profession must be found before we can take and hold a respected position by the side of our associates in other fields of medicine. A mere knowledge of the existence of a complex interplay between mental processes and physical conditions is not sufficient. An understanding of the mechanisms of operation must be the common knowledge of all physicians and the conclusions must be reasonably well understood by those whom we would serve.

Ever since the advent of the scientific approach the great body of the profession has seemed fearful of recognizing the nervous and psychic forces in the health problem in their proper perspective. The organic concept has so dominated the physician's thinking as to become almost an obsession. It has seemed to demand exclusion from his tenets of faith of whatever remotely suggests the occult or the psychic. The forces which served him so faithfully before the birth of *real* science he has too often spurned as unworthy, forgetful that they were the means by which he had ascended the heights and fearful that, if admitted, they might discredit his fundamental conception of disease. Consequently the sick man, ignorant of the relationship between his bodily state and his affective life, has given ear to the cultist and the commercial quack, who have often displaced the doctor, utilizing with consummate skill and effectiveness the very instruments the doctor has refused to recognize or failed to understand.

The intellectual and affective life of man may be, in the last analysis, but chemistry and physics, but as yet these sciences have given us no adequate understanding of either man's personality or behavior. They have never explained his failure to be satisfactorily synthesized into effective social relationships. Accumulated facts and obser-

vations run far ahead of our capacity to understand and correlate them, but until man is considered in his physical and psychologic entirety, no real understanding of him and his diseases will be possible.

HUMAN BEHAVIOR MUST BE STUDIED

It is no doubt true that our specialty of neuropsychiatry deals fundamentally with human behavior. It is only in part medical and has to do but in a minor degree with pills and prescriptions. It is concerned rather with the integration of all man's faculties and the doctor's first interest is not statistical nor in determination of the degree of variation but in the *cause* of individual failure to function at a normal level. Organized society is studying this problem from a thousand angles and in the face of the many lay movements the doctor can only maintain his leadership by creating better individual mental hygiene and human efficiency and by recognizing and amalgamating all the forces at hand. It is the quality and effectiveness of his leadership toward this goal which shall ultimately determine his position.

Lay leadership tends to deprecate what it does not understand just as the scientist is prone to reject what he is asked to accept on faith or utilize with empiricism. The failure of the lay leader to appreciate highly specialized and technical information shares with the physician's unwillingness to evaluate the humanistic and affective qualities of non-medical persons, the blame for the frequent defeat of a common purpose to promote the general well-being.

It may be impossible at this time to set definite boundary limits for the participants in the health socialization problems, but it is certainly clear that only the psychiatrist or the psychologist trained in the medical sciences can grasp and evaluate the countless physical factors in nervous or mental disorders. It is equally apparent that mere medical training supplies an altogether inadequate preparation for a proper appraisal of the personality and the affective life. No degree of medical skill can entirely supplant the wide experience of human nature and the maturity of judgment which is often possessed by the altruistic lay worker in human welfare, unshackled by the *medical birthright* of dogma and tradition. A too tenacious support of mere opinions and a contentionsness over matters incapable of scientific demonstration have retarded the strictly medical approach. It is only recently that the swing away from the structural idea and the advent of psychopathologic research have emboldened the medical man to venture out into the immeasurable realm of the mind in the effort to explain those common phenomena of life so vastly more important than mere physical and vegetative existence, and to link them with the coordinated facts of natural science. This movement has carried the psychiatrist to the point where some of the mental mechanisms seem fairly understood though he has little physiologic or anatomic basis for his explanations of them and must turn to the anatomist and experimentalist to correlate his observations and establish the new outposts.

EVALUATION OF METHODS

Largely within the last twenty years, through the youngest of the medical specialties, has come this new venture toward rounding out our knowledge and it has yet to develop a technique and a background out of its own consciousness of need and deficiency. On the one hand has been the alluring impulse to follow the imagination into the realm of make-believe; on the other, the subconscious awareness of the necessity to square it all with the traditionary demands of the scientific attitude.

In this movement there has been a breaking down of recognized limitations. Like all new interests it has attracted a horde of disciples eager to give effect to their ideas and hasten the day when all our social and mental ills will disappear. There is the sociologist with his impulse to give practical application to the theoretical, statistical, and impersonal—the psychologist with his own particular brand of cure—the psychoanalyst, the religionist, the social worker, the mental hygienist. It becomes constantly more difficult to define the boundaries of these many agencies; but it is increasingly apparent that in the churches, the schools, and the infinite social welfare groups the doctor and the medical psychiatrist is finding his leadership threatened as the psychical and social concept of disease becomes more universal. The psychiatrist who permits his medical viewpoint to be dimmed by a too fertile imagination and narrow psychologic approach must accept his responsibility for a waning leadership in the socialization movement and the loss of prestige for neuro-psychiatry as a department of scientific medicine.

There is no doubt that each of these groups has a contribution of value to make. We cannot make ourselves master of all the factors of disease. The process of gathering data, of studying and correlating factual information concerning group and individual life becomes a highly specialized undertaking. The better understanding of normal psychological processes becomes a matter of greater and greater intricacy—too large for one man's scan. We get nowhere by holding ourselves aloof from these groups with a "holier than thou" attitude. Even those affairs best evaluated and understood from the medical viewpoint are in themselves vast and insurmountable. They exact the best and all that the medical man can give; they place him in a vantage point unattainable except by the process through which he himself has come. Nevertheless, unless he can command by the very quality of his leadership, future alignments will find him in a secondary position.

BROAD CONCEPTS NEEDED

If the medical approach is to be kept sound and unassailable it is imperative that our concepts be well rounded and that a satisfactory correlation be maintained between the physiological, structural, psychic and emotional. We are all aware of the tremendous impetus given medicine by lifting it out of the morass of superstition and fixing it upon the foundation of science; yet we

have become painfully conscious in recent years of the inadequacy of our information and the lack of finality of our conclusions. It is impossible to understand the problems in the vast domain of the borderline states, their differential diagnosis and evaluation, to say nothing of the frankly psychotic, upon the basis of medical science alone. Known facts concerning the anatomy and physiology of the central nervous system form a poor framework for understanding and an even more unsatisfactory basis for treatment. Fortunately greater progress in the understanding of mental mechanisms is furnishing a supplemental background to a few physicians. However, until more facts concerning anatomical localizations and coordinating and correlating pathways can be established and fundamental, emotional and motivating factors revealed, much of the therapy must remain empirical and guesswork.

The chemistry and physiology of fatigue and the demonstration of synoptic connection is still to be investigated before many of our theories cease to be controversial. For the present, inquiry into causes must give way to mere recognition of conditions and provisions for their management. The horde of suffering humanity whose ills seem not adapted to our particular formula is a commentary upon our failure to meet the situation. They ask for bread and we give them a stone and add insult to injury when they go elsewhere to seek and obtain the only kind of pabulum they are capable of digesting.

GREAT INCIDENCE OF PSYCHO-NEUROTICS

We are prone to boast of the prolongation of life, but year by year the misfits and psychoneurotics far outnumber all other forms of ailment. Those evolutionary children, altruism and brotherly love, set at naught the laws of survival and the potentially unfit grow apace, only to fall prey to the increasing pressure of modern life.

Great armies of unfit are all about us; for one requiring physical aid there are ten who do not. They apply to us in vain for help. Are we to continue to shift them from one specialist to another, or permit and encourage them to apply to the cult for relief? The doctor assures them they are physically sound, even may advise that they do not need medical care. True, they may not need such medical care as their physician is prepared to administer. His is the materialist's viewpoint. Trained in the school where only the tangible and the measurable have value he has been too busy becoming dexterous with the tools given him—he has never learned the use nor importance of others. Fear as an etiologic factor in disease has been no part of his education. The concept of the patient as a personality, a composite of forces, affectivities and indefinite qualities apart from the physical is not acceptable to his idea of a medical approach. Only when every other possible explanation is eliminated and both patient and physician in a state of near despair does the physician's resistance break down sufficiently to permit a ray of truth from a psychogenic angle to enter.

PERSONAL RESPONSIBILITY OF PHYSICIAN CAN BE OF GREAT AID

Where shall this army of misfits and maladjusted turn for relief? Temperamentally unstable, sufficiently variant from the norm to make the ordinary standard of measurement and judgment quite inadequate, sensitive, doubting and incompetent they require the personal touch, an intimacy of understanding that is quite impossible in mass treatment or by a delegation of authority. In no place is there greater need of that sense of personal responsibility which is the professional inheritance of the physician and nowhere does the factor of moral and personal force count for more than in serving the psychically sick.

FAMILY PHYSICIAN AN IMPORTANT FACTOR

And now I come to the point of my remarks. How can the known facts and theories of neuropsychiatry be of greatest service to those who need them? One answer and solution may be found, I believe, in the proper education and viewpoint of the family physician. It has not been my experience and observation that the extreme psychological speculations and theories of the highly intellectual investigator in the field of psychiatry have any great practical value for the relief of the average neuropsychiatric patient. Such leaders are as essential as research workers and investigators in any other department of learning but our limitations and practical considerations make the application of theoretical procedures almost impossible. I believe that the best results will be obtained by the family physician if he can be armed with modern tools, can be trained to the new viewpoint fortified by the background of a reasonable experience.

UNIQUE POSITION OF FAMILY PHYSICIAN

The family physician occupies the unique position of doctor, general advisor, friend and confessor and he needs must be at least a little of each of these. He enjoys an intimacy that affords an unparalleled advantage in approach. He knows the family constitution through personal observation. He knows all the family skeletons and the present and past reactions to them. He knows the family morale and the individual capacity for intelligent coöperation. For these reasons it would seem economic and proper for this line of first defense—the family doctor—to be better prepared to deal with the question and to evaluate anew the neuropsychiatric factors of ill health and disease.

Fortunately medical schools and premedical curricula are broadening the preparation for practice; but until a practical working knowledge of psychology and a liberal course in the humanities becomes a "sine qua non" for a doctor's license, the general practitioner will continue to have his patients drift to cults, quacks and faith healers. Among his fellows he has been thrown out of focus by the high degree of specialization and interest too often becomes attached to incidental and concurrent phenomena. The medical man forgets that, as yet, the practice of his profession is

as much an art as a science—that it is the doctor's business as much to understand his patients as to treat their diseases.

There is less of the technician in the general practitioner's approach than in that of any other and generally there exists a far finer sympathy and understanding because of the closeness of the relationship; but the general practitioner should properly evaluate the elements of anxiety and apprehension that play such a large part in the patient-doctor relationship and the psychological effect of that attitude. If he is to make the most of the unique position of family advisor he must understand the fear complex that either initiates or quickly arises out of the sick state. He must be able to penetrate and appraise a complicated psychology that often induces an invalidism unnecessary and avoidable. He should have a fuller appreciation, not only of the frequency of social and psychical inadequacies but of the mechanisms by which they find their expression in common forms of ill health.

Too little attention is given to disposition, slightly abnormal tendencies and reaction types and too little is known by the general practitioner of the potentiality of these variations being elaborated into disease states under the magic of suggestion, lay or medical. More and more is it becoming apparent that affective states operating through the endocrines and the autonomic system are responsible for great numbers of the chronic invalids and for a wide variety of physical signs and symptoms, while the conditions for which the doctor is consulted are merely end results or symptomatic sign posts.

I cannot believe that human life and behavior is so complex that a properly trained general practitioner may not understand this whole relation of man or patient. He need only have certain fundamental conceptions of psychology to pierce the veil of censorship and inhibition which surrounds us all individually and deal rationally with those difficulties of adjustment and adaptation that so often translate themselves into seeming physical disorders. Freudian psychoanalysis may be helpful to a better understanding of some of the mechanisms but it is helpful to the physician much as is a technical knowledge of pharmacology. It is a scientific attainment to understand the structural combination of complex arsenical drugs but of little value to the practitioner in the treatment of central nervous lues. I believe the proportion of patients is small whose troubles can be solved only by a technical psychoanalysis. Friendliness and sympathy on the part of the physician is usually sufficient to break down reserve on the part of the patient, while genial informality encourages confidence and promotes assurance and full confession.

Most of the elements that enter into the common variety of nervous disabilities are so well known to us in miniature in our own lives that their comprehension needs but common sense, an appreciation of the fundamentals of psychology and the medical viewpoint. No one of these ele-

ments can be omitted in the doctor's equipment if he is to succeed in the estimate of himself or his patient; for who better than the family physician, the friend and counselor can instill and maintain that morale without which no method can succeed and with it exhibit a humanness and interest tending to unite him and his patient in faith, hope and understanding.

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THE NARROW BISPINOUS DIAMETER—ITS INFLUENCE ON OCCIPUT POSTERIOR POSITIONS*

"HONORABLE MENTION" PAPER IN THE CLINICAL RESEARCH PRIZE COMPETITION OF THE SIXTIETH ANNUAL SESSION OF THE CALIFORNIA MEDICAL ASSOCIATION

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IN reviewing the prenatal record of a patient in labor with a persistent occiput posterior position, I casually observed that the bispinous diameter was 9.2 centimeter. This observation raised the question in my mind whether or not the narrow bispinous diameter might be an obstacle to rotation in occiput posterior positions.

NOTES ON THE LITERATURE

A study of the literature revealed that this subject is a very old one. Exactly a hundred years ago Velpeau¹ wrote that "the causes that occasion the posterior position to occur are little understood. It is better frankly to admit our ignorance than vaguely to refer them to this or that shape of the pelvis." In 1855 James Y. Simpson² stated that "in some, any, and in others, apparently every successive portion of the concavity of the floor of the pelvis seems to serve this purpose (rotation), but the spines of the ischia contribute far less than is generally believed."

The subject is seldom brought up in recent literature, and the few opinions expressed are rather vague and contradictory. Thus, Williams, Berkeley and Boney, Polak, Tweedy and Wrench, Peterson, Jaschke and Pankow, Munroe Kerr, Bumm, and others, do not even mention the ischial spines in their textbooks in discussing the etiology of persistent occiput posterior positions.

Lehle³ assumes that the ischial spines can have little to do with the posterior position since he very seldom found prominent spines associated with this condition. De Lee,⁴ however, refers to "poorly developed spines" as one of many possible causative factors.

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*This paper was submitted under the nom de plume "Baudelocque" and was awarded "honorable mention" in the Clinical Research Prize competition at the sixtieth annual session of the California Medical Association at San Francisco, April 27-30, 1931. The paper was later read before the Section on Obstetrics and Gynecology.

Cragin⁵ assigns considerable importance to the ischial spines. In 1916 Cragin stated that in occiput posterior positions there is "poor flexion, the occiput and sinciput reaching the pelvic floor at the same time and rotation is prevented by the spines of the ischia." Even more recently Harper,⁶ in speaking of deflexion as an etiological factor, stated that "the larger plane meets increased resistance in rotation, as might be expected. The situation is still further complicated by the fact that the broad diameter must rotate on a level approximating that of the ischial spines. Were the latter but little overprominent, slight success would attend efforts of uterine and pelvic-floor muscles to direct the occiput forward. Many cases of persistent posterior in multiparae are explained on this basis."

From a reference to the literature it is obvious, then, that the question, although over a century old, is still unanswered. In fact, during this entire long period the only contributions to the subject are a few scattered personal opinions and impressions. And yet, the subject is not only of great theoretical interest, but of much practical importance since a knowledge of etiology is a prerequisite to effective prophylaxis and to rational treatment.

PELVIMETER MEASUREMENTS

Very recently the situation has been changed by the introduction of a pelvimeter for the accurate measurement of the bispinous diameter.⁷ By means of this instrument it is now possible to secure quantitative data in large series of cases. By such measurements it can be demonstrated with what frequency the narrow bispinous diameter and the occiput posterior position are associated. The present study was undertaken with the object of ascertaining by statistical means whether or not any coincidence or relationship exists between these two conditions.

CLINICAL DATA

The bispinous diameter was measured in a series of 620 consecutive prenatal cases. The average measurement was found to be 10.5 centimeters. Pelves with a bispinous diameter of 9.5 centimeters or less were rather arbitrarily classed as narrow, and those measuring over 9.5 centimeters as normal or large. According to this classification 107 pelves fall into the first group and 513 into the second group.

Positions were regarded as posterior when the occiput was found behind the transverse of the pelvis at the time of delivery. The occiput posterior was regarded as persistent when no progress occurred after one and one-half hours or more of efficient second-stage pains. Only cases of occiput posterior in which the head was well engaged were included in the series, since the influence of the ischial spines cannot come into play unless the head is deeply engaged.

Ten cases of persistent occiput posterior position, satisfying the above requirements, were encountered in the consecutive series of 620 cases. In every one of these cases the bispinous diameter was 9.5 centimeters or less, averaging 9.3

centimeters. With the exception of a moderate narrowing of the bi-ischial diameter (average of 10.3 centimeters) the other measurements were essentially negative in these pelves. Nine of the patients were delivered by low or low-mid forceps, following manual or instrumental rotation of the head. A craniotomy was done in one case on a dead fetus with a prolapsed cord. The weight of the infants ranged between 3090 grams and 4454 grams with an average of 3658 grams. Eight of the patients were primiparae.

The few cases in which delivery occurred spontaneously with the occiput toward the sacrum are not included in the study because of incomplete records.

Through the kind coöperation of Dr. Alfred Spalding it was possible to follow up a number of cases of occiput posterior delivered on the obstetrical service of Stanford University Medical School. As in the first series, only deeply engaged and truly persistent posteriors were selected for study. The bispinous diameter was measured in seven such cases; in six of these the measurement was 9.5 centimeters or less, and in one case 10.5 centimeters; the average measurement for the group was 9.4 centimeters. Forceps were used in six of the cases after manual or instrumental rotation of the head, and in one case delivery occurred spontaneously following manual rotation. The weight of the infants was 3440 grams to 3830 with an average of 3547 grams. Four of the patients were primiparae.

COMMENT

By combining the Stanford with the San Joaquin General Hospital series a total of seventeen cases of persistent occiput posterior is obtained for study. Although the series is small it represents the pathological material of over a thousand labors. Furthermore the paucity of material is to a considerable extent compensated by the very accurate means employed for the measurement of the bispinous diameter, and by the definite and clear-cut criteria used in the selection of the cases of persistent occiput posterior position. Any possible error was thus reduced to a minimum.

The significant finding that emerges from the present study is the circumstance that the bispinous diameter was narrow in sixteen of seventeen cases of persistent occiput posterior position. This fact is even more striking when it is recalled that the narrow bispinous diameter occurs in only one out of six pelves. The logical inference that may be drawn from this constant association of the two conditions, is that the narrow bispinous diameter forms a serious obstacle to rotation and thus contributes to the persistence of the posterior position.

Among the other pelvic abnormalities the funnel pelvis has been considered as a possible factor in the etiology of the persistent posterior position.^{8,9} It is true that there is a much greater incidence of the persistent posterior in funnel pelves. However, it seems, that the real cause of the malposition in these pelves is the associated

narrow bispinous diameter rather than the narrow bi-ischial diameter, since the spines being situated superiorly and posteriorly would present an obstacle to the rotation of the occiput before the pubic rami or the ischial tuberosities could exert their influence.

The above observations may have a very practical bearing on treatment. In occiput posteriors associated with a narrow bispinous diameter, intervention would be indicated earlier than under similar circumstances in a normal pelvis. In the former it would be questionable whether the usual policy of conservatism should be followed. If there is good evidence that the occiput is locked between the spines, that is, if the head is of average size or larger, is deflected and deeply engaged within a narrow bispinous diameter, it would be unwise to wait for signs of maternal exhaustion or fetal distress before intervening. Under such circumstances anterior rotation is unlikely to occur, and undue delay would merely result in impaction rendering manual or instrumental rotation difficult and version hazardous, not to mention the unnecessary suffering and the other well-known difficulties and dangers incident to a protracted second stage. These considerations are presented, not to encourage indiscriminate interference or a radical departure from well-established principles, but to point to a finer differentiation and selection of cases which may possibly lead to more rational management of the troublesome occiput posterior positions.

SUMMARY

The bispinous diameter was accurately measured in a series of cases. The data obtained show that the persistent occiput posterior position occurs almost invariably in pelves with a narrow bispinous diameter. The inference drawn from this observation is that the narrow bispinous diameter forms a serious obstacle to the cardinal movement of rotation. The practical bearing of this conclusion is the indication for earlier operative intervention in deeply engaged occiput posteriors occurring in pelves with a narrow bispinous diameter.

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CARBON DIOXID ABSORPTION FROM ANESTHETIC MIXTURES*

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THERE is no evidence that nitrous oxid gas enters into any chemical combination with body tissues when it is inhaled. This is probably true of other anesthetic gases, ethylene, for instance. Nevertheless, gases are habitually wasted in large quantities in order that the carbon dioxide exhaled by anesthetized patients may be eliminated into the atmosphere. In 1916 and following, numerous reports were made from the laboratory of Jackson describing various means of absorbing exhaled carbon dioxide from anesthetic gases and vapors. The first experiment made by Jackson and Mann was described as follows. Two dogs were placed in a gas-tight cabinet filled with twelve gallons of nitrous oxid. The contents of the cabinet were constantly pumped out through a solution of alkali which absorbed the carbon dioxide, then back into the cabinet. Oxygen was constantly liberated into the cabinet in small quantities. By this means the two dogs were kept anesthetized for twenty-four hours with the original twelve gallons of nitrous oxid plus sufficient oxygen to maintain metabolic activity.

Although there is no evidence that ether is chemically affected while producing anesthesia, it does tend to dissolve in the fats of the body to a greater and greater extent as the period of anesthesia is prolonged. There is, therefore, an apparent disappearance of ether from the circulation as it is dissolved out of the blood by lipid tissue. As the ether comes back into the circulation during recovery, it leaves the blood through the alveoli and gradually, over a period of hours or days, is completely eliminated. Just as with the anesthetic gases, ether has been wasted to a large extent in that it had to be expired from an anesthetized patient in order to eliminate the carbon dioxide produced by that patient. The volatilization of ether has long been understood to take place more readily in the presence of a moderate amount of heat. The need for constant elimination of carbon dioxide has, however, made it impossible to satisfactorily warm inspired ether vapor by means of the patient's body heat. Many attempts have been made to warm ether vapor before it is delivered to the patient. Heating devices, however, have always been more or less unsatisfactory and dangerous because of the fire hazard. Heating devices may result in oxidation of ether, producing various impurities which are toxic. A closed system without exhalation valve permits the vaporization of ether in a warm medium due to the accumulation of body heat, but with the accumulation of body heat occurs an extensive unphysiologic accumulation of carbon dioxide, resulting in the necessity for its removal.

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* Read before the joint meeting of the General Surgery and Anesthesiology sections of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

By absorbing the carbon dioxide in soda lime, advantage may be taken of accumulated body heat to warm ether vapor. A reduction in body temperature has long been considered a possible accompaniment of protracted anesthesia. The demonstration, therefore, by Jackson of the feasibility of the removal of carbon dioxide produced by a patient in anesthesia through its absorption in an alkali, offered a means, not only of conserving anesthetic gases and vapor, but also conservation of the usually wasted heat and moisture lost through exhalation. In previous communications, attention has been called to the practicability of applying this principle, demonstrated by Jackson, to everyday use in operating room technique of inhalation anesthesia.

APPLICATION OF JACKSON'S PRINCIPLE TO PRACTICAL ANESTHESIA

Under ordinary conditions, the atmospheric space included in alveoli, bronchi, trachea, larynx, pharynx, mouth, nose and accessory sinuses is considered to constitute the respiratory tract. To apply the principle of Jackson to practical anesthesia, one must enlarge the normal respiratory tract to include a face mask and breathing bag. One should then make such an enlarged respiratory tract air-tight and fill it with anesthetic mixture suitable to a given individual. Such mixture may be one of nitrous oxid and oxygen, ethylene and oxygen, ether and air, or ether and oxygen, or any combination of these or other anesthetic agents. With this enlarged respiratory tract filled with an anesthetic mixture, the concentration of the anesthetic mixture containing oxygen, in the alveoli, and the mixture in the bag will be exactly the same with two exceptions. The alveolar content will carry an excess of carbon dioxide and the bag will contain an excess of oxygen. If such a closed respiratory tract is maintained in position for any length of time, the accumulation of carbon dioxide will increase throughout the system, always being high in the alveoli. Likewise the concentration of oxygen in the alveoli will tend constantly to be depleted and this depletion will affect the whole contents in a short time. No change will take place in the concentration of the anesthetic gas or vapor once equilibrium is established with the blood. In order, then, to make such enlargement of the respiratory tract

filled with anesthetic mixture practicable for continuous maintenance of anesthesia, provision must be made for the removal of carbon dioxide gas, and for the addition of oxygen in sufficient quantities to replace that used from the blood by tissue metabolism. The most satisfactory means for the removal of carbon dioxide from this closed respiratory tract has been found, in our hands, to be the insertion of a quantity of high grade soda lime granules (sodium and calcium hydrate) as part of the system. The oxygen replacement can be best accomplished by constantly flowing into the system a steady stream of oxygen approximating the probable metabolic demand of the individual anesthetized. As anesthesia proceeds, fine adjustments of this flow of oxygen can be made to very closely approximate the amount of oxygen taken out by the blood during each minute of anesthesia. In this manner the blood is constantly supplied with a physiologic quantity of oxygen, and is relieved by the soda lime of its excess carbon dioxide in a physiologic manner without the development of hyperpnea or other disturbances of physiologic activity.

After a description of the technical means necessary for forming an enlarged respiratory tract, the various advantages of such a method of producing anesthesia by inhalation will be discussed.

TECHNIQUE OF ANESTHESIA

No effort will be made to carry the reader through the various experimental trials necessary to come to the realization of a practical equipment. Suffice it to say that attempts were made to apply Jackson's principle by means of closed circle devices through which the anesthetic mixture was made to circulate in one direction either because of one-way valves, or forced to circulate by means of an electric pump. The conclusion was reached that much more physiologic conditions could be maintained by inserting a soda lime canister between the face mask and the breathing bag, being sure that the openings in the soda lime container and bag were of sufficient size to avoid the possibility of interference with free breathing. In the accompanying illustrations are shown various types of mask and laryngeal airway through which air-tight connections can be made with a canister of soda lime granules and

TABLE 1.—Gas Analyses*

	CO ₂			O ₂		
	Pharynx	Lips	Bag	Pharynx	Lips	Bag
No. 7416, after 35 minutes.....	4.8%	.....	0.0%	27.2%	.....	38.0%
No. 7891, gas-oxygen after 60 minutes.....	6.4%	4.2%	0.2%	9.8%	12.3%	22.4%
No. 9690, after 20 minutes systolic 155 and hyperpnea due to failing soda lime.....	.....	.....	9.6%	.....	.....	.....
No. 9690. Same case 30 minutes later with fresh soda lime. Systolic 105. No hyperpnea	3.5%	2.9%	0.2%	8.3%	.....	23.2%

* Gas analyses showing concentration of carbon dioxide and oxygen in various portions of the enlarged respiratory tract during anesthesia with absorption technique.

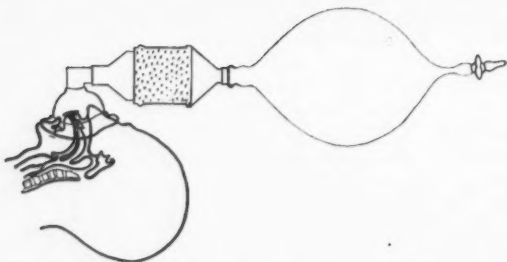


Fig. 1.—Diagrammatic sketch of enlargement of respiratory tract, consisting of pharyngeal airway, face mask, soda lime canister, and breathing bag.

breathing bag. It will be noted that in each one of these masks or airways there is provided an inlet nipple for the addition of a constant flow of oxygen as well as to make provision for an increase of anesthetic mixture to fill the enlarged respiratory tract either in the beginning of anesthesia or when a change is being made from one agent to another. The inlet serves its purpose best when situated proximal to the canister of soda lime rather than when connected with the breathing bag. This improvement in the technique was suggested by Guedel.

Whatever mask is used, it must be one capable of at least approximating an absolutely air-tight contact. The canister connects to the mask and to the breathing bag by means of metal slip joints. The cylindrical canister, measuring 8 by 12 centimeters, contains five hundred grams of high-grade soda lime granules 4 to 8 mesh, sold under the name "Wilson Soda Lime." There are many cheaper grades of soda lime available, and many other sized granules, but we have seen no preparation of soda lime as safe or satisfactory as the 4 to 8 mesh Wilson Soda Lime. If other sized granules are to be used, a modification would necessarily have to be made in shape and size of the canister. The total weight of canister and granules is nine hundred grams. The breathing bag found most convenient has been one of seven to ten liters capacity, light weight rubber. Smaller bags are usable, but less convenient. The substitution of a spirometer for the breathing bag has been made with considerable satisfaction, and will be the subject of another communication. It will be noted that no mention is made of an exhalation valve. There is none. When it is desired to empty the system, the mask is raised from the face during exhalation. All joints and connections of the apparatus, including contact of mask with the face, must be absolutely air-tight insofar as this is possible. As in all other inhalation anesthesia, care must be taken to insure an absolutely free airway to and from the deeper portions of the respiratory tract. The use of artificial pharyngeal airways or laryngeal airways (endotracheal) has been found convenient and physiologically beneficial. These pharyngeal and laryngeal airways will be seen in the accompanying illustrations, and are, we believe, self-explanatory. The gas control apparatus is that in ordinary use, with

one exception, although it may be made much simpler. Means must be afforded for a finer measured constant flow of oxygen, capable of adjustment to slight variations. The quantities usually used of constant oxygen flow vary from one hundred to one thousand cubic centimeters per minute, the average being two hundred to four hundred. Only occasionally are wider variations in constant use of oxygen found. It will be noted that the masks and airways illustrated will provide varying amounts of dead space between the mouth or nostrils and the soda lime. This variety of masks and airways is provided to afford control of carbon dioxide conservation as well as to suit the requirements of different surgical procedures. A patient coming to the operating room with considerable respiratory depression due to the previous administration of nonvolatile anesthetic agents may require more conservation of carbon dioxide than one who has had no such medication. If further "piling up" of carbon dioxide seems advisable, the slip joints by which the canister of soda lime is held in place provide a means of connecting the mask directly to the bag, thus allowing the complete conservation of expired carbon dioxide over whatever period the anesthetist deems necessary to re-establish physiologic conditions.

CONDUCT OF ADMINISTRATION

By the description of an actual case, we can perhaps best explain the manipulation of this apparatus for the production of anesthesia. The soda lime canister is first taken in the hand and the lips placed in an air-tight manner in contact with one end, the other end being closed by the palm of the hand. By blowing into the canister

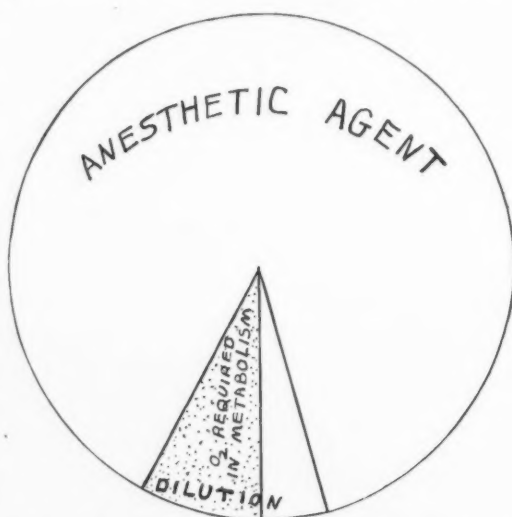


Fig. 2.—Respiratory tract must contain a mixture of anesthetic agent diluted sufficiently to suit each individual patient. Oxygen may serve as diluent. Percentage dilution varies widely for different patients with the same agent. Oxygen required for metabolism varies widely for each patient, but is apt to be nearly a fixed amount per minute for a given patient whatever the agent. This "metabolic" oxygen should be added by constant flow throughout anesthesia.

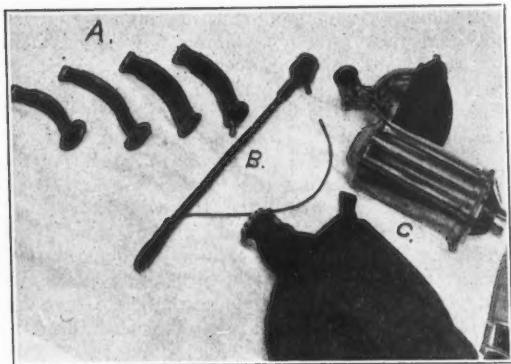


Fig. 3.—A. Variety of pharyngeal airways. B. Endotracheal airway with inflatable cuff to insure air-tight contact with tracheal mucosa. C. Mask, canister of soda lime, and breathing bag with slip-joint connections.

until considerable pressure has developed, and with the sudden release of the pressure when the hand is removed, any possible dust contained in the soda lime will be forced out. This process may be repeated if necessary. The canister is then placed on the anesthetist's table. The mask with a well-inflated face cushion is next connected to the inlet tubing from the gas apparatus. The breathing bag is connected directly to the mask by means of the slip joint, using a twisting motion always in connecting and disconnecting metal slip joints. A rapid flow of nitrous oxid and oxygen is started into the mask. The proportions of nitrous oxid and oxygen are usually those which the anesthetist presumes will approximate an anesthetic mixture for this particular patient. The mask is brought near enough to the anesthetist's face to assure him that no mistake has been made in connecting his gas tanks, and the mask is placed over the patient's face. It need not be held exceedingly tight at first until anesthesia has developed. As soon as unconsciousness appears, the elastic retaining device shown in the illustration is brought into place. This aids somewhat in relieving the muscles of the anesthetist's left forearm which would otherwise be kept at constant tension to maintain an air-tight contact. Nitrous oxid need be left running only so long as is necessary to fill the breathing bag. At the same time, the rapid flow of oxygen is discontinued and a

flow which is thought to approximate the metabolic need of the particular individual (perhaps two or three hundred cubic centimeters per minute) is maintained. If ethylene is to be used, a replacement of the nitrous oxid with this gas is made as soon as unconsciousness has supervened. If nitrous oxid only is to be used, a fresh supply should replace the first bagful soon after unconsciousness is present. The first bagful is emptied by pressing on the bag and raising the mask slightly from the face during expiration. This replacement is necessary in order to eliminate as much as possible the residual nitrogen contained in the blood and respiratory tract before induction. Several replacements of the original gas in the bag will prove beneficial for this reason. Always remember that when replacement is performed, excess oxygen over that constantly running into the mask will probably be necessary to dilute the bag contents to a proper anesthetic mixture. At a convenient time soon after anesthesia develops, a pharyngeal airway should be slipped in place at the slightest evidence of respiratory obstruction. This is accomplished by tilting the mask upward from the chin with contact at the nose as fulcrum. A rapid flow of anesthetic gas should be started just previous to raising the mask in order to prevent air entering the system.

One should always remember that oxygen serves two purposes in anesthesia. First, it must be present in sufficient quantity to supply the metabolic demands of the patient from minute to minute. It also serves, however, to dilute an anesthetic gas or vapor to a proper degree to maintain good anesthesia. In the case of particularly potent drugs such as acetylene, cyclopropane, or ether and chloroform vapor, a part of the dilution may be accomplished with air or nitrogen, but in the case of nitrous oxid and ethylene, their potency is such that usually a very small amount of oxygen in excess of that necessary to supply metabolic requirements is sufficient dilution to form an anesthetic mixture.

Once sufficient carbon dioxid has accumulated in the respiratory tract, including the mask and bag, to maintain active respiratory effort somewhat in excess of normal, one may insert the soda lime canister. This may be accomplished during the expiratory phase by pinching off the bag full

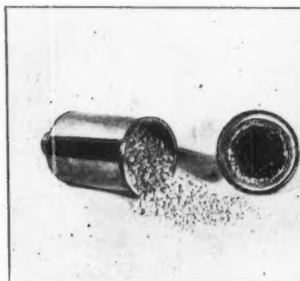


Fig. 4.—Canister of soda lime, open, showing granules.

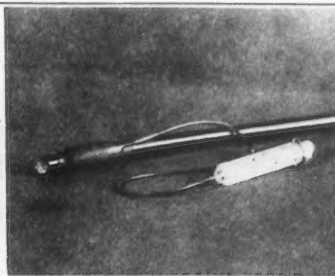


Fig. 5.—Detail of endotracheal airway, showing cuff inflated. Complete deflation is necessary during insertion and removal from trachea.

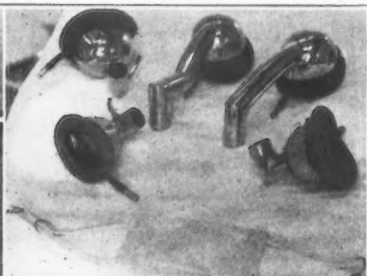


Fig. 6.—Assorted sizes and shapes of face masks. Canvas elastic retainer.

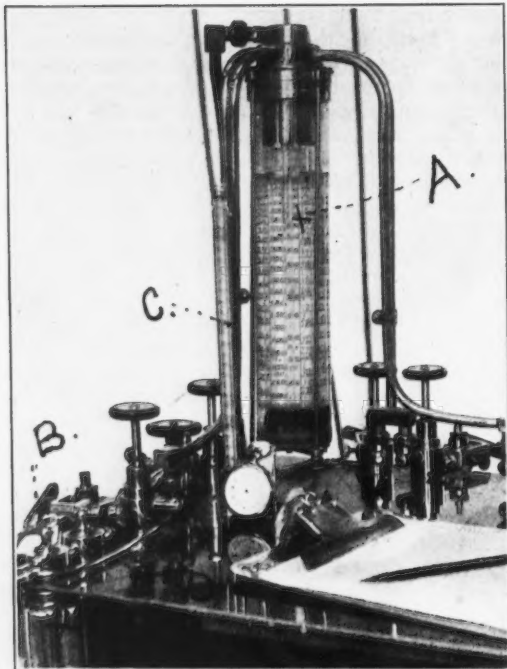


Fig. 7.—Combined anesthetic table and apparatus. A. Flow meters for various gases. Essential that meter for oxygen indicates slight differences in flow between 100 and 600 cubic centimeters per minute. B. Bottle for liquid agents which are volatilized by shunting part or all of oxygen flow through or over the liquid. C. Mercury column. D. Valve allowing compressed air or nitrous oxid to inflate blood pressure cuff.

of gas in the hand which disconnects the slip joint, or if deliberation is required in inserting the canister, a flow of whatever gas is being used may be started previous to making insertion of the canister and until it is in place. Once a proper anesthetic mixture occupies the respiratory tract, mask, bag, and canister, and the proper adjustment of the constant oxygen flow has been made to suit the metabolic needs of the patient, one may continue indefinitely with no further adjustments.

When evidence of too deep anesthesia is manifest by changes in physical signs, a rapid flow of oxygen into the mask through the delivery tube

will allow of a single breath of an oxygen-rich mixture, thus quickly avoiding the development of unpleasant signs of overdose. If a quick return is made to slightly more than the previous flow of oxygen, the large excess of oxygen which the patient receives for one inhalation will be neutralized by the higher concentration in the breathing bag during the next respiratory cycle and so one will avoid the following advent of too light anesthesia. If the physical signs show evidence of too light anesthesia, a sudden puff of anesthetic gas through the inflow tube will correspondingly enrich the anesthetic mixture for one breath and this will again be neutralized in the following respiratory cycle. Thus the second to second control of anesthetic maintenance with gas anesthesia is more easily accomplished than with any other technique. In case of unexpected extreme respiratory depression or arrest, two procedures are available. First, tilting the mask away from the chin, accompanied by hand pressure on the bag, will quickly empty it while a rapid flow of oxygen has been instituted from the apparatus. As soon as there is any accumulation of oxygen in the bag, hand pressure will inflate the lungs. Second, if there is any doubt as to the oxygen supply in the apparatus, which is very often the case when need for chest inflation occurs suddenly during anesthesia, the best procedure is to disconnect the mask from the canister and blow directly into the mask. Such a procedure will avoid the possibility of a frustrated anesthetist losing valuable time in trying to adjust an apparatus which has already failed to deliver oxygen for one reason or another.

The only variation in this technique for use of acetylene, cyclopropane, and other more potent gases is that the original filling of the bag with these gases should be made with a greater flow of oxygen approximating a proper dilution to make a safe anesthetic mixture. The constant flow of oxygen necessary to maintain metabolism with the more potent gases, is similar to that necessary with ethylene or nitrous oxid. No work has yet been published to prove that metabolic rate is affected in different degree by different inhalation agents.

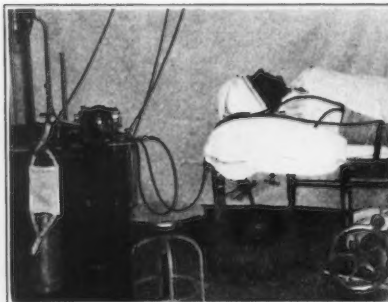


Fig. 8.—Full-sized pillow under patient's head and shoulders.



Fig. 9.—Head rotated to side (usually right) and retainer put in place before induction.

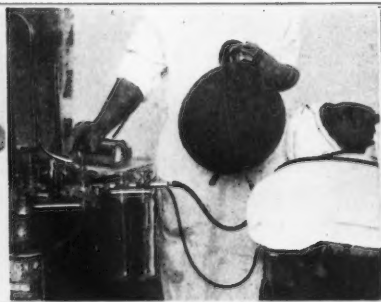


Fig. 10.—Soda lime canister has been freed from dust by blowing and lies ready. Breathing bag is attached directly to mask and filled with probable anesthetic mixture of nitrous oxid and oxygen. Note gas inlet is in mask.



Fig. 11.—Induction, allowing accumulation of expired carbon dioxide. Oxygen, only, flowing from apparatus. Mask held by retainer.

Fig. 12.—Induction complete. Insertion of soda lime during expiratory phase of respiration. Alternative is reestablishment of rapid flow of gas and oxygen from apparatus, allowing leisurely introduction of canister, since delivery tube enters mask.

Fig. 13.—Readjustment of head to maintain point of contact of canister with pillow as the fixed point; thus the weight of canister aids in retention of mask.

ADDITION OF ETHER

Small quantities of ether may be added to any gaseous mixture in this technique, either for a short time or throughout the anesthesia, by shunting the constant oxygen delivery through a supply of ether. Small quantities of ether will be found to accomplish the same result as much larger quantities of ether added to an open technique. If complete flaccid muscular relaxation is desired, it can be accomplished more satisfactorily with this technique and with less harm than by any other familiar to the author.

The procedure is as follows: Induction is made as described above, by filling the enlarged respiratory tract with a nitrous oxid-oxygen mixture, the soda lime canister being omitted until the required depth is reached. As soon as unconsciousness supervenes, a small amount (two hundred or three hundred cubic centimeters per minute) of carbon dioxide is run into the respiratory tract along with as large a supply of oxygen as is compatible with unconsciousness. As active hyperpnea develops, the oxygen and carbon dioxide flow is shunted through the supply of ether, vaporizing rather large quantities just short of that sufficient to cause irritation of the upper respiratory mucosa. If necessary, a slight flow of nitrous oxid may be added through the ether in addition to the oxygen and carbon dioxide. If the breathing bag becomes distended to some extent, so much the better. When a thoroughly active hyperpnea has developed, the carbon dioxide flow

is cut off, but addition of ether is continued until the third plane of third-stage ether anesthesia is reached. This means passage through the second plane with an eyeball fixed on center (complete extrinsic ocular muscle paralysis) and on through delayed intercostal activity to complete intercostal paralysis which marks the entrance into the third plane. At this point, the soda lime canister is inserted, being careful to pinch off the breathing bag and not waste the accumulated gas and vapor therein. Throughout this procedure as high a content of oxygen has been maintained as possible. Only ether vapor and oxygen may fill the respiratory tract. The function of the nitrous oxid has been served, once unconsciousness has been accomplished and ether anesthesia induced. Slight distension of the bag is beneficial rather than harmful. When the third plane is reached (requiring three to ten minutes) the canister of soda lime is inserted. One may then allow the anesthesia to become slightly less intense, aiming at about the mid-region of the second plane. This depth of anesthesia produces a condition more satisfactory to the surgeon for abdominal work than is that of the third plane. In the third plane, diaphragmatic activity is increased to compensate for lack of thoracic breathing, and the resultant movements may be an embarrassment to the surgeon. Maintenance of this depth may or may not require a small constant addition of ether vapor. Such addition is accomplished, when necessary, by allowing the constant stream of oxygen which is added to maintain metabolic requirement, to

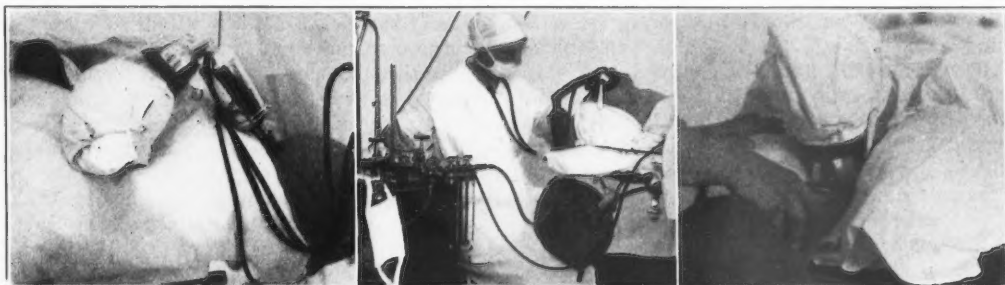


Fig. 14.—View from head of table.

Fig. 15.—Thyroid mask.

Fig. 16.—Prone position. Head rests in mask.

pass through or over the surface of the ether supply. The total quantity of ether necessary for the accomplishment of an hour's anesthesia with flaccid muscular relaxation need seldom exceed two ounces.

MASKS

By the use of various shaped masks, such as those illustrated, the convenience of the anesthetist and surgeon may be suited to the different positions necessary for the accomplishment of many surgical procedures. For the accomplishment of head surgery of various sorts, the application of closed endotracheal airways to the technique as described elsewhere is found most convenient. The method implies a completely controlled and free airway down to and including the larynx. The enlargement of the upper respiratory tract to include mask or airway, soda lime canister and breathing bag, must constitute an entirely leak-proof space to obtain the best satisfaction. The accomplishment of a leak-proof system and a free airway is not difficult in the hands of the experienced anesthetist.

COMMENT

Temperature.—Some methods of inhalation anesthesia have long been considered likely causes of a reduction in body temperature. The tendency with this technique is toward a rise in body temperature rather than a fall. The warm atmosphere leaving the alveoli during each respiratory cycle passes out through the soda lime, where the carbon dioxide which it contains is left as a carbonate and this same atmosphere again enters the lower respiratory tract during the next respiratory cycle. The constant flow of oxygen in the mask has replaced the oxygen absorbed from it during the previous respiratory cycle. There is a tendency to the production of heat in the mass of soda lime because of the chemical reaction by the carbon dioxide and hydroxide to form carbonate. This added heat proves to be a benefit to the patient. The objection has been raised that too great a heat might develop in the respiratory tract as a result of the chemical reaction. With some grades of soda lime, a damaging concentration of heat might possibly occur, but with the high-grade soda lime above mentioned, we have found it impossible to develop, in the atmosphere inhaled by the patient, a temperature higher than forty degrees centigrade. In the center of the mass of soda lime, a temperature as high as forty-seven degrees has been noted during clinical anesthesia, but the atmosphere is cooled enough as it passes from the soda lime toward the trachea so that even forty-seven degrees never reaches the mucous membrane of the air passages. There can be no fear of damage from excessive heat with this temperature. In this connection, it must be remembered that if one adds pure carbon di-

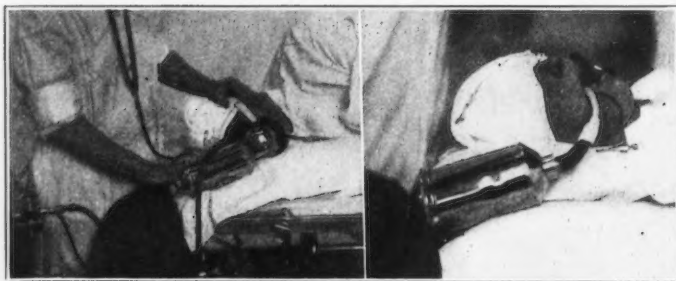


Fig. 17.—Lateral position.

Fig. 18.—Air-tight endotracheal airway. Canister and bag may be carried to either side or down along chest. A towel may be clamped around canister and to pillow or patient's shirt, after patient is in final position for operation.

oxide to the system with the soda lime in place, a much more rapid chemical reaction will take place in the soda lime with corresponding excessive development of heat. We have found it possible to reach a temperature, in the center of the soda lime mass, of one hundred degrees centigrade when pure carbon dioxide was circulated through it. It is therefore not advisable to make a practice of adding carbon dioxide to the enlarged respiratory tract when the soda lime canister is in place. It should be removed if high concentrations of carbon dioxide are to constitute the respiratory atmosphere.

It is our belief that the respirations during inhalation anesthesia conducted by this technique much more nearly resemble those of normal sleep than when similar drugs are inhaled in any other manner. Possibly the maintenance of the inspired atmosphere at body temperature is a factor in accomplishing this result. There is a tendency to an increase in general body temperature as observed with a thermometer in the axilla or in the rectum rather than toward a decrease.

Moisture.—Very early during anesthesia conducted by this technique the enlarged respiratory tract is filled with atmosphere completely saturated with moisture. During prolonged anesthesia, the cooling effect of the room atmosphere outside the breathing bag may result in some condensation of moisture in the breathing bag. The quantity of water, however, which is actually lost from the patient's circulation in this manner is very slight even through a long anesthesia. All inhalations consist of a completely saturated atmosphere. Since dehydration is one of the unphysiologic accompaniments of inhalation anesthesia, we believe that the constant inhalation of a saturated atmosphere with a minimum loss of water from the body by exhalation is of decided physiologic benefit. There is another very definite advantage to the administration of anesthetic mixtures containing 100 per cent relative humidity. Ether vapor, and ethylene and acetylene gases in the presence of high relative humidity are less of a hazard from the standpoint of explosion and fire. We therefore feel that the technique is well worth while from this standpoint alone. The usefulness

of these drugs is too great to discard them for no other reason than fear of explosions.

Control.—Many anesthetists have felt, on first attempting the technique, that the fine control of oxygen supplied to the patient, and of carbon dioxid elimination, was interfered with as compared with other techniques with which they were familiar. Further experience, however, has convinced them that the matter of fine control rests largely in the hands of the anesthetist and his complete familiarity with whatever technique he chooses to employ. Since Guedel has suggested the inlet source for oxygen being placed between the soda lime canister and the patient, we have experienced no difficulty in regard to quick and minute control of the depth of anesthesia and oxygen supply. Open techniques may attempt to give a graduated variation of rebreathing with the view to individualizing the carbon dioxid output for each patient according to his physiologic requirements at the time of anesthesia. The practical results of such attempts, however, have fallen short of the ideal expected. The ease with which the canister of soda lime may be removed in the technique herein described, thereby allowing an entire accumulation of the expired carbon dioxid for whatever period seems necessary, takes care of gross abnormalities of physiology occurring during administration. The capacity of the usual adult mask is 350 cubic centimeters, and the accumulation of carbon dioxid to the extent involved in this dead space will usually approximate that necessary to maintain normal respiratory minute volume when administration is superimposed upon premedication with sedative drugs. In the case of children and in some unusual circumstances, the use of smaller masks or the connection of pharyngeal and laryngeal airways direct to the soda lime canister improves the character of the breathing, bringing it to a more physiologic level. If one appreciates the two functions of oxygen in anesthesia, one to dilute the anesthetic agent to make of it a proper anesthesia mixture for each patient, and the other that of supplying oxygen for the metabolic activities of the body, we believe that the control of anesthesia and the maintenance of physiologic conditions of respiration is more easily accomplished by this technique than by those in general use.

Quantity of Agents.—It will scarcely be appreciated by the uninitiated how small actual quantities of anesthetic gases and oxygen are necessary for the maintenance of anesthesia by this technique. If care is used in avoiding waste, a gallon and a half of nitrous oxid for induction, two gallons of ethylene for maintenance, and one gallon of nitrous oxid during recovery may be made to suffice for an anesthesia of any length whatever. Once the enlarged respiratory tract is filled with a proper anesthetic mixture, and the oxygen adjusted to the metabolic requirements of the patient, anesthesia may be conducted without further addition of ethylene even though the anesthesia may be hours in duration. This fact seems quite incomprehensible to the average an-

esthetist at first thought. It can be accomplished in every case if the anesthetist will take pains to establish at the very beginning of anesthesia an absolutely free airway and an enlarged respiratory tract completely free from leaks. As previously mentioned, two ounces of ether vaporized is sufficient for the maintenance of the most profound relaxation in laparotomy. The advantage here is twofold. First, no ether vapor contaminates the atmosphere inhaled by the surgeon and anesthetist; and second, two ounces can be eliminated in a very short period postoperatively, whereas eight or ten ounces of ether will need a much longer period for elimination. The danger of saturating the atmosphere of the operating room with a highly concentrated mixture of air and ethylene or other explosive gas or vapor is very much reduced. If the anesthetist will take care that his machine is leak-proof, and that the contact of mask and face is tight, no hazard is run by the use of actual cautery in the operating room. Anesthetists have long been embarrassed by the necessity for a choice of agents in a given case on the ground of expense to the patient. The closed technique herein described makes the use of expensive gases no more costly than is an ordinary open ether administration which has often been used as a basis of estimate for the comparative cost of anesthesia. The small total quantity of gases coming in contact with the patient may avoid severe intoxication under certain circumstances. For instance, an eighty-gallon tank of ethylene was once used by the writer to anesthetize twelve different individuals. The tank was afterward found to be contaminated with carbon monoxid in sufficient quantities, so that had the eighty gallons of ethylene been used to anesthetize one patient, as would have been the case by the use of any other technique, sufficient carbon monoxid poisoning would probably have taken place to have resulted in the death of the patient. This accident actually happened to two patients anesthetized by ethylene from the same lot. Finally the total weight and bulk of gases and apparatus necessary for the accomplishment of a morning's work in anesthesia is reduced from a truckload to the contents of a handbag or, at most, two small handbags.

There are certain intangible effects of anesthesia which can only be described as disturbances of physiology. Perspiration, mucous secretion, abnormalities of respiration during anesthesia and similar disturbances following anesthesia with the addition of nausea, vomiting, chills, and many other unpleasant after-effects have all appeared to us to be less frequent than before this technique was instituted. In a word, the sum total results have seemed to be more physiologic.

Bacterial Contamination.—It has been suggested that the danger of cross infections was enhanced. The mask is removed from the canister after each anesthesia and thoroughly washed with soap suds and hot water, rinsed in hot water and dried, unless a particularly dangerous case from the standpoint of infection has been handled, when further sterilizing procedures are instituted.

The canister containing soda lime granules may be autoclaved with surgical dressings if necessary. The breathing bag may be washed in alcohol, boiled, or otherwise sterilized. The possibility, however, of bacterial contamination was investigated by Dr. W. D. Stovall, director of the Wisconsin State Laboratory of Hygiene, and visiting bacteriologist at the Wisconsin General Hospital. His reply follows: "Complying with your request to carry out some bacteriological examinations to determine the probability of your anesthesia apparatus acting as an agent for conveying bacteria from one person to another, I have performed two sets of experiments. First, I poured a culture of staphylococcus into the canister containing soda lime. I then drew air, which was first washed through several washings of sterile distilled water, through the soda lime in the canister and through beef infusion glucose broth. This experiment I allowed to run two hours and at the end of that time the cultures were placed in the incubator for a period of a week. In no case did the culture show a growth of any kind. The other experiment was made by blowing air into a bottle containing a suspension of bacillus prodigiosus. The air was blown through this suspension of bacteria so that it agitated it and made a fine spray in the bottle. Through a small glass tube which reached just through the cork of this bottle, I drew air by a process of suction through the soda lime of the canister and then through glucose beef infusion broth. These cultures were also incubated for one week. None of them showed any growth. While this is a limited number of experiments, I consider that the apparatus was submitted to a very severe test and I believe that if the bacteria do not find their way through the canister into the media by these experiments, that there is certainly no possibility of bacteria being transferred from one patient to another by contamination of the lime in the canister." In order to completely cover this situation, Guedel has made it a practice to place mask, canister, and bag in a muslin container, autoclaving the container and contents after each anesthesia. From the standpoint of the "cleanliness appeal" to the patient, we believe this a good practice, although entirely unnecessary for the complete avoidance of cross infections.

Soda Lime.—The greatest difficulty which we have personally experienced with this method has been that in connection with the soda lime itself. Any attempt to use inferior grades of soda lime has always resulted in disaster. Smaller sized granules than 4 to 8 mesh are not applicable to the size canister here described. Handling of soda lime containers results in more or less dust formation in the soda lime. It is therefore advisable to buy original containers from the manufacturer with as little handling of the granules as possible before their use. The canister is filled with as little trauma to the granules as possible, the canister being tapped on the side as it is filled so that the granules completely fill the canister before the cover is screwed on. It will be noted that the cover is held in place by a threaded ring so that the whole top of the canister need not be turned,

in forcing the cover down air-tight. After filling, any dust contained in the granules should be blown out either by means of compressed air or more conveniently by blowing into the canister, as already described. This procedure should be repeated before each anesthesia if any doubt exists as to the presence of dust. Soda lime dust is a mildly alkaline powder only slightly irritant to either the skin or mucous membranes of most individuals. There are, however, individuals highly susceptible to weak concentrations of alkali in which the presence of this dust in the conjunctiva, on the skin, or respiratory mucosa might result in irritation. With reasonable care, no dust need ever so contaminate the patient.

Renewal of Soda Lime.—The five hundred grams of soda lime contained in the canister is sufficient for the absorption of the expired carbon dioxide of a patient over a period varying from six hours to ten or twelve hours, depending on the size of the patients anesthetized and their metabolic rates. It has been estimated that an individual utilizes five to six cubic centimeters of oxygen per minute for each kilogram body weight. He will produce slightly less than this amount of carbon dioxide each minute. As one becomes more familiar with this technique, the variation both in the production of carbon dioxide and the consumption of oxygen with variations in metabolic rate will become evident. It is convenient to record the number of times that a given canister is used after filling, by means of a check mark on a small rectangle of adhesive plaster stuck to the cover of the canister. One need never fear the presence of saturated soda lime until the canister has been used at least six times. The presence of hyperpnea or other respiratory disturbance not explainable on other grounds may be taken as evidence of depleted absorptive qualities of soda lime. If in addition there is a gradual rise in systolic blood pressure occurring, one may test by expelling the contents of mask and bag by raising the mask and pressing on the bag during expiration, meanwhile allowing fresh gases to flow in. If the hyperpnea disappears and the systolic returns to normal with the display of fresh gases, the soda lime is saturated and should be replaced by a fresh canister.

Gas Analysis.—In the accompanying table are shown analyses of the contents of the enlarged respiratory tract from samples taken during clinical anesthesia. Samples have been taken from the region of the glottis in the pharynx, from the mask in front of the face, and from the breathing bag. As would be expected, there is a much higher content of oxygen in the breathing bag than in the mask or pharynx, and the reverse is true of the carbon dioxide concentrations. The samples shown in the table were taken with oxygen delivery made in the distal end of the bag instead of into the mask.

SUMMARY

This technique has been used for over ten years and is considered by the author to be the ideal means of controlling inhalation anesthesia. There

are now available at Wisconsin General Hospital records of five thousand cases anesthetized in this manner during the past four years. A similar number have been made by the author elsewhere. Our impression is as suggested above, that the results have been more physiologic than with other methods. The necessity for the use of an endotracheal airway for head work has left something to be desired in short operations of this sort. In operations about the head lasting longer than a half hour, we believe that the introduction of an endotracheal to-and-fro airway is indicated, and results in benefit to the patient. The complete absence of respiratory obstruction serves to protect the patient against circulatory damage from this cause. Short periods of respiratory obstruction may be tolerated, but over long periods, obstruction is damaging to even the best surgical risk. The cost of anesthesia by this technique has been greatly reduced and the absence of anesthetic gases and vapors in the atmosphere of the operating room has been greatly appreciated by the operating team. The fire and explosion hazard is greatly reduced, we believe. In the attempt to instruct others in the use of carbon dioxid absorption, we find them slow to appreciate its advantages in proportion to their familiarity with open techniques. The more experience an individual has had with open techniques the more difficult he will find it to acquire a conception of the two functions of oxygen in anesthesia. The experienced anesthetist in open techniques will also have a tendency to disregard leaks since by means of positive pressure from his apparatus he has been wont to counteract the effects of ill-fitting mask, etc., and has forced the gas outward through the poor contact to prevent the entrance of air. The slightest opening, which would not be considered a leak in any other technique, may make quite impossible the conduct of good anesthesia in the manner here described. There is a tendency to fail to appreciate the slighter degrees of respiratory obstruction. An absolutely free airway is essential to the conduct of physiological anesthesia.

It is believed that a stimulus to a better understanding of the physiology of respiration and circulation will come to the anesthetist who familiarizes himself with carbon dioxid absorption. A large field for physiologic investigation is made available. For instance, we know little of the effect on metabolic rate of the various anesthetic agents. With slight modifications of the above described apparatus, direct recorded readings of oxygen consumption during anesthesia can be made. Many refinements in technique suggest themselves, pregnant with practical advantages. A citation follows: If a flexible container is substituted for the breathing bag herewith illustrated, and its excursions graduated in cubic centimeters, one can record or read directly respiratory excursions and minute volume. By the addition of a mechanical trigger which is tripped when the enlarged respiratory tract begins to lose contents, one can arrange an automatic control of oxygen feed. Many other investigative and practical modifications and applications of the

technique suggest themselves as one becomes familiar with it. The practical use of carbon dioxid absorption as well as its experimental availability for physiologic investigation, rests largely upon one's ability to eliminate leaks and the maintenance of absolutely free unobstructed movement of the atmosphere contained in the enlarged respiratory tract. A knowledge of the physiologic functions of carbon dioxid and oxygen and the ability to control these factors is essential to the anesthetist. Given the physiologic knowledge, he will find the control directly in his hands by the use of the technique above described and its many modifications.

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PENETRATING WOUNDS OF THE CHEST*

By HOWARD W. STEPHENS, M.D.

AND

SAMUEL COHN, M.D.

San Francisco

DISCUSSION by Frank S. Dolley, M.D., Los Angeles; Fred R. Fairchild, M.D., Woodland; A. Lincoln Brown, M.D., San Francisco.

PENETRATING wounds of the chest are not uncommon, but their severity varies greatly and the complications which arise from them constantly bring up new problems.

In civil life, trauma to the chest from gunshot and stab wounds and severe crushing wounds of the chest are the injuries seen most commonly. War injuries, with their large defects in the chest wall, retained foreign bodies in the lung or pleural cavity, and severe infection¹ constitute a somewhat different problem which we shall not discuss further in this paper.

COMPLICATIONS

Among the complications arising from penetrating wounds of the chest are open pneumothorax, closed pneumothorax, hemothorax, and hemopneumothorax.

Open Pneumothorax.—It was believed originally that an open communication between the thoracic cavity and the outside air was compatible with life only as long as that opening was smaller than the glottis. More recently Graham² has taken issue with this belief (rightly in our opinion), stating that the higher the individual's vital

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² Read before the General Surgery Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

capacity the greater may be the size of the opening he can tolerate in his chest. If an individual's vital capacity is so low that his tidal air is almost equal to his vital capacity, he will be unable to survive even a small opening because already his maximal inspiratory effort is sufficient to inhale only enough air to satisfy the tidal air requirements.

What happens if, as a result of injury, a large opening is made in the chest wall, exposing the pleural cavity to the outside air? The factors responsible for the maintenance of an expanded lung disappear and the lung on the affected side collapses. The movement of this lung now becomes paradoxical: it expands with expiration and collapses with inspiration. These competitive respiratory movements in the lungs cause a to-and-fro flow of air from the bronchi of one lung to the bronchi of the other and result in a greatly diminished oxygen content of the alveolar air and, consequently, of the blood. At the same time an open pneumothorax exerts a most serious effect on the heart through the flapping of the mediastinum, which is drawn over to the sound side in inspiration and forced back again with expiration. It should not be said, however, that all cases of pneumothorax will give the picture just described. If the mediastinum or lung is fixed by adhesions from some previous affection or if the individual has a high vital capacity, a large opening may be tolerated for some time.

Closed Pneumothorax.—A closed pneumothorax is not usually so hazardous an affair. It, however, becomes dangerous when there is a valve-like opening connecting the thoracic cavity with the atmospheric air. In this condition the air in the chest on the affected side may reach an extremely high pressure with resultant displacement of the mediastinum to the sound side, decrease in vital capacity, and death from either asphyxia or rupture of a mediastinal structure.

Hemothorax.—In almost all penetrating wounds of the chest, hemothorax ensues to a greater or less extent. The size of the hemothorax depends on the freedom of the pleura from adhesions, the extent of the laceration of the lung tissue, and the nearness of the lesion to the hilum. The actual source of the hemorrhage is, in the great majority of cases, the lung itself, and active bleeding from an intercostal vessel is the exception. What appears to be pure, nonclotted blood, has been aspirated from the pleural cavity several days or weeks following a perforating wound of the chest. Because of this fact it has been thought that the blood making up a closed hemothorax does not clot in the pleural cavity. However, it has been shown rather conclusively, we believe, by Elliott and Henry³ that the blood of a hemothorax clots almost immediately. These investigators in 1916 studied many cases of hemothorax which had resulted from injuries to the chest from gunshot wounds, etc. They found that very early a defibrination of the blood in the pleural cavity took place, which they attributed to the whipping action of the heart, mediastinum,

and diaphragm, and showed at postmortem examination layers of fibrin which actually seemed to have been beaten out of the hemothorax and deposited on the pleural surfaces. These authors considered the secondary clotting that occasionally occurs following aspiration to be caused by an outpouring of serum from pleural irritation with a new content of fibrinogen which produces clotting, as is often seen in ordinary pleural effusion.

Hemopneumothorax.—A hemopneumothorax presents problems no different from those seen in a pneumothorax or hemothorax, and need not be further discussed. Diagnoses of these conditions usually are made with the aid of the x-ray, which gives just as much information as a physical examination and requires much less disturbance of the patient. However, if the patient is not acutely ill, both physical examination and x-ray studies may be made.

TREATMENT

Counteraction of Shock. There are three cardinal considerations in the treatment of all injuries of the chest, namely, the counteraction of shock, the arrest of bleeding, and the prevention of septic infection. Most patients with chest injuries are in shock when they come into the hospital. For this condition morphin, given in doses until its physiological action is reached, is our most valuable remedy, but its allies, such as heat and intracellular salt solution, occupy a place second only to that drug.

Arrest of Hemorrhage.—If the patient is kept at absolute rest, it is rare that any active intervention is required

TABLE 1.—Summary on Penetrating Wound Cases in San Francisco Hospital in Last Twelve Years

Total No. of Cases of Chest Injury	Total No. of Penetrating Nature	Hemothorax Present	Pneumothorax Present	Combination of Hemo- and Pneumothorax	No. of Cases Treated by Aspiration	Infectious Complications		Type of Complication	
						No.	Per Cent	Empyema	Pneumonia
162	102	73	30	25	31	18	17.5	13*	6

* One patient had both pneumonia and empyema.

to check the hemorrhage from the lung. The pressure of the blood in the pleural cavity on the lung and the associated collapse of that organ usually are sufficient to stop further hemorrhage. If, however, the main source of the hemorrhage is a wound of an intercostal vessel, ligature of that vessel may be the only means of controlling the loss of blood. If there is a constant escape of blood from a wound in the chest wall in the neighborhood of an artery, the artery must be suspected. Often the differentiation between shock and continued bleeding is difficult. We find the blood pressure to be the only certain means of determining between shock and hemorrhage. The blood pressure readings should be taken every half hour, and if there is a steady dropping, operative interference is urgently needed.

Not infrequently patients suffering from fractures of several ribs will go into shock suddenly. This condition may appear three or four days following injury and the history usually reveals that the patient was moved for x-ray examination or that the chest was restrapped. Careful following of the blood pressure and the hemoglobin percentage soon will reveal that the patient is suffering not from shock but from hemorrhage. When the diagnosis of hemorrhage is made, what to do is still a difficult problem. Often there is no external laceration of tissue and, as several ribs are broken, a rather extensive operative incision is required. In addition, difficulty in finding the spurting intercostal vessel may be experienced if incision is decided upon in such a case. Hemorrhage of this type often can be controlled by passing chromic ligatures around one or several ribs on both sides of the fracture site.

Just recently I saw such a case as I have described, a patient of Dr. Frank Harris', with whose permission I report this case.

The patient, a man aged fifty-two, had been struck by a runaway automobile, receiving fractures of several ribs on the left side as well as a compound fracture of both bones of the left leg. On the day of injury the patient's leg was set in plaster and the fractured ribs were strapped. At that time there was no evidence of fluid in the chest.

The patient's convalescence was rather encouraging, considering the severity of his injuries, but four days after the accident his condition suddenly became critical. His pulse rose rapidly, the blood pressure dropped to eighty, and the red blood count dropped to two million, with a hemoglobin of fifty per cent. X-ray plates taken at the bedside revealed a large amount of fluid in the left chest.

The patient lived only a few hours after the onset of these symptoms. A postmortem examination revealed a large hemothorax with several small puncture wounds in the left lower lobe, and rather wide displacement of the fragments of the fractured ribs. Hemorrhage undoubtedly was the cause of this patient's death and its source was no doubt a ruptured intercostal artery. On the day before the patient's death he had vomited several times and the straining incident to the vomiting might have been a factor in the causation of this late bleeding.

On the other hand, the same history and chain of symptoms occasionally appear from a late hemorrhage from the lung following multiple rib fractures. Recently at the San Francisco Hospital, I saw a patient with several fractured ribs

on the left side. The patient had been in the hospital two days and was making a satisfactory recovery. Suddenly his condition became critical; his pulse rose rapidly to 160, and signs of fluid in the left chest were present for the first time. This patient was treated by aspiration of 400 cubic centimeters of bloody fluid and replacement of the fluid by 600 cubic centimeters of air. He recovered rapidly following this treatment.

Because the procedure is so simple and requires so little time, we believe it is much better in these cases in which the source of the hemorrhage is indefinite, first to try compression of the lung with air or oxygen. If there is no improvement within a short time, the fractured ribs must be exposed and the bleeding area controlled.

The treatment of hemothorax in those patients not requiring immediate operation is not entirely satisfactory. Morrision Davies,⁴ an excellent English surgeon, as early as 1912 advocated the aspiration of a hemothorax with replacement by air. The reasons for replacement by air are as follows:

1. Upon the introduction of air when zero pressure is reached, the lung is totally collapsed. This immobilizes the lung and compresses the walls of the wound in the lung, producing mechanical closure.

2. The air prevents adhesions between the lung and the parietal pleura.

3. The compression of gas is elastic and permits normal chest expansion on the unaffected side.

Morelli⁵ not only replaces the fluid by air but washes out the pleural

TABLE 2.—Summary on Mortality Record from Penetrating Chest Wounds

Total Deaths	Early Deaths		Causes of Early Death		Late Deaths	Causes of Late Death				Uncomplicated Mortality			
	No.	Per Cent	Shock Hemorrhage	Complicating Cord and Heart Injuries		Pulmonary Infection	Peritonitis	Early	Late	No.	Per Cent	No.	Per Cent
17		16.5	7	3	7	5		7		7	6.8	5	4.9

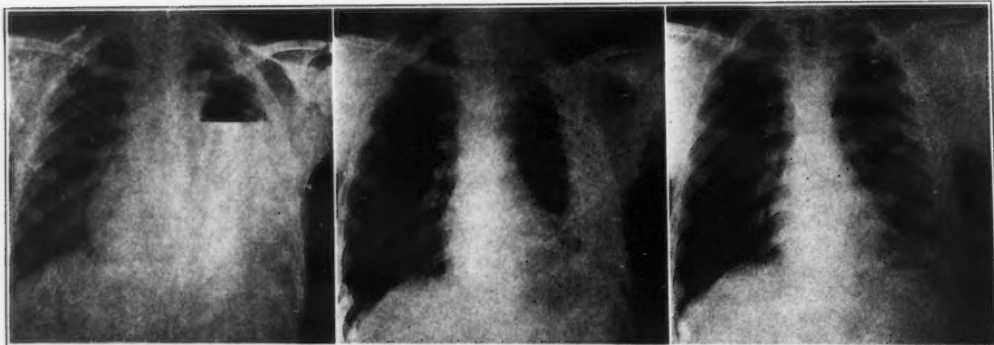


Fig. 1.—A film taken twenty-one days after injury, showing fluid still up to the second rib level, although a total of 2700 cubic centimeters of bloody fluid had been removed by aspiration.

Fig. 2.—Two and a half months after thoracotomy. The film shows the lung gradually coming out, with considerable thickening of the parietal pleura.

Fig. 3.—Seven and a half months after thoracotomy. The lung is now much more expanded and the thickened parietal pleura has been partially absorbed.

cavity with a fibrin-dissolving solution of chloro-sol following the aspiration of the bloody fluid. Our present treatment is based upon the principles laid down by Davies. The hemothorax is aspirated on the third or fourth day following injury. A one-millimeter needle is introduced in either the seventh space in the mid-axillary line or the ninth space in the posterior axillary line. This needle may have a two-way stop, one end of which is connected with a pneumothorax machine and the other with an aspirator, or two needles may be used. All the fluid is aspirated and replaced with air to make the pressure about zero. If another tapping is required, a negative pressure up to minus eight may be left with safety.

The opinions of surgeons during the Great War differed as to the value of this treatment. Elliott⁶ had very few cases of hemothorax that required a second aspiration. Hewer, Pratt, and Mason,⁷ on the other hand, concluded that the adhesions following hemothorax were almost the same whether the fluid was aspirated or not. These latter authors were almost tempted to suggest the replacement of aspiration by thoracotomy for the treatment of hemothorax.

In our hands incomplete absorption of the hemothorax after tapping has been much more frequent than with the English surgeons. A patient with a hemothorax which has failed to absorb is ill. He tires easily and often runs a moderate fever. Further aspiration of fluid is impossible. If not operated on these patients will become chronic invalids, but operation gives them immediate and lasting benefit.

An intercostal incision usually is made through the fifth and sixth or sixth and seventh ribs in the mid-axillary line. The pleural cavity is opened, the fluid and spongy fibrinous deposits are removed, and the chest is closed without drainage. A negative pressure of minus twelve usually is left in the thoracic cavity. This helps to bring the lung out to the chest wall.

This incomplete absorption of the heavy fibrinous deposits in the pleural cavity following a hemothorax has been of particular interest to

us, and we have been studying some phases of the problem in dogs and rabbits. Unfortunately these animals have very tolerant pleural cavities. Blood, introduced into their pleural cavities, is absorbed rather rapidly and leaves little trace of adhesions or fibrin deposits. This fact makes the problem somewhat more difficult, as we are especially anxious to produce adhesions and fibrin deposits and then attempt to absorb them by different fibrin-dissolving substances; we are still at work on this problem and hope in the future perhaps to prevent the occurrence of this complication following hemothorax.

The case of a boy, age seventeen, who was stabbed over the left clavicle near its sternal attachment, represents just such a complication (Figs. 1, 2, 3). Physical examination revealed a left hemothorax. The patient was treated with numerous tappings of the chest and replacements by air for about one month. Fluid, however, continued to re-form in the chest cavity and we felt that thoracotomy was indicated. When this operation was performed, heavy, spongy deposits of fibrin were found lying in the costophrenic sinus. These were all removed, and the patient made an uneventful recovery following this operative procedure.

If the hemothorax is suspected of being infected, daily smears and cultures are taken, and if found positive a rib is removed and the proper drainage is instituted. Sterile hemothorax often causes a temperature running as high as 103, and the laboratory has to be relied upon to differentiate an early infected hemothorax from a sterile one.

Prevention of Infection.—The third main consideration in treatment, that is to say, the prevention of infection, is the same as in any other part of the body. Contaminated wounds, such as crushing injuries into which dirt has been ground, or the tract of an infected bullet wound, are thoroughly debrided. Coupled with debridement the constant cleansing of the mouth and fauces will do much in preventing sepsis from its most likely sources.

The harmful effects of an open pneumothorax are rectified immediately by the closing of the opening in the chest wall. This is done as soon as possible by the use of rubber dam, vaseline gauze, wet towels, suturing, etc. The closure of an open pneumothorax can change impending death to a normal state within a few minutes.

The closed pneumothorax with a valve-like action of the puncture wound requires only closure of the wound and a needle in the chest on the affected side. The needle is connected with a rubber tube which leads under water in a bottle at the side of the bed and the excess air bubbles out, so that normal pressure is established. We have seen two such cases in children following automobile accidents in which the foregoing procedure was a life-saving one.

Large intra- and extrapleural foreign bodies and extensive rib fractures usually require operative procedures.

A summary of the cases of penetrating wounds of the chest that have occurred in the past twelve years at the San Francisco Hospital is given in Tables 1 and 2. These figures show a mortality percentage well below those quoted by various authors during the war, but somewhat higher than two and three-tenths per cent late mortality of Boland's⁸ 341 cases of penetrating wounds of the chest, and the less than two per cent in the 162 cases reported by Allen.⁹

CONCLUSIONS

1. Hemorrhage, alterations in intrapleural pressure, and infection are the main causes of death in penetrating wounds of the chest.
2. The present treatment of hemothorax can be improved but, from our knowledge to date, aspiration with replacement by air or oxygen is a step forward.
3. Alterations in intrapleural pressure can be rectified easily if they are recognized early and the necessary treatment is instituted.
4. In civil practice the late mortality rate is low in penetrating wounds of the chest.

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DISCUSSION

FRANK S. DOLLEY, M. D. (727 West Seventh Street, Los Angeles).—In the rapid development of chest surgery during the past few years far too little attention has been devoted to intrathoracic injuries.

A sucking wound of the chest wall or open pneumothorax, if the external opening is of considerable size, may result in death almost immediately. It is lamentable that it is not more generally appreciated that its immediate closure by tight bandage, or even in an emergency by the gauze-covered palm of the hand, brings immediate relief. Closure of these wounds is, of course, essential. If there is extensive injury to the lung beneath this injury it should be repaired, rough scraping edges of broken ribs removed and the opening in the chest wall cleared of torn tissue and closed without drainage. It is seldom wise to drain the pleural cavity since the smooth pleural surfaces are amazingly competent in handling invading bacteria, whereas the presence of a tube acts as a foreign body and empyema more often than not develops. Blood within the pleural cavity should be thoroughly removed before closing.

Tension pneumothorax, where an injury to the lung with chest wall closed allows air to enter between the pleural leaves with inspiration but by valve-like action does not permit its complete release in the succeeding expiration, is thoroughly dangerous, as Doctor Stephens has said, and unless relieved often causes death. If air, after repeated aspiration, rapidly reaccumulates I certainly think the wisest course is to expose the lung through a wide intercostal incision, find the tear in the lung and mend it. The operation is not a shocking one and usually requires but a few minutes. The relief is immediate and absolute. Continuous trocar drainage of the air for several days is very liable to convert the extensive pneumothorax into a pyopneumothorax.

Hemothorax should be aspirated after two to four days. It is very doubtful if its presence has any favorable influence by its pressure in controlling further bleeding. By the same token I do not believe that air replacement is of material aid since lung inflation and deflation occurs whether the lung is compressed or not though its degree varies somewhat. Moreover the blood pressure within the lung is scarcely more than one-sixth of that in the general circulation. Hemorrhage once controlled within it has little tendency to recur. The sooner a collapsed lung is allowed to come in contact with its parietal pleura the quicker the pleural surfaces will resume their normal functions and the less adhesions there will be.

One final word: Approximately 85 per cent of those who suffer injuries of the chest recover with complete rest, sedatives and watchful waiting. We are, therefore, altogether too prone to pursue this course with 100 per cent of the cases, hoping that our particular patient may not be among the unfortunate 15 per cent. Despite the fact that the great majority recover under expectant treatment there is a certain per cent whom we deliberately allow to bleed to death under our very eyes with the hope, that becomes more and more forlorn as the hours pass, that a bleeding vessel may eventually decide to stop this side of exsanguination or that a tension pneumothorax may not really, after all, result in fatal anoxemia. If surgical exploration seems indicated one should not wait until the patient is moribund before

resorting to it. The surgeon is then to blame, not the procedure; but surgery through no fault of its own is, nevertheless, brought into disrepute.

✱

FRED R. FAIRCHILD, M. D. (Woodland Clinic, Woodland).—It is unfortunate that the lesson of the Great War relative to the treatment of penetrating wounds of the chest has not been more generally learned. Such lesions are usually first seen, not by the thoracic surgeon, but by the general practitioner. The great hazard associated with these injuries is immediate rather than remote and on the character of first aid will largely depend the progress, whether satisfactory or otherwise.

Except for the immediate hazard to life due to mechanical disturbances of the mediastinal structures caused by altered atmospheric pressure, a chest wound is not essentially different from a wound in any other part of the body. But this difference, as Doctor Stephens well emphasizes, is a vital one, and if the patient is in shock or dyspneic the demand for attention is immediate. The wound in the chest wall must be closed, by suture if possible, or as an alternative by occlusion with gauze, rubber dam and adhesive, or by any other method which will prevent the in and outrush of air on respiration. In just the proportion that this effect is obtained will the dangerous mediastinal flapping be modified.

The discussor emphasizes the fact that a closed pneumothorax is not usually so hazardous a condition as is an open pneumothorax. In this we concur, but stress the fact that a closed pneumothorax does demand close observation, for the valve-like action of which he speaks is not uncommon and when it does occur the positive pressure in the affected side, if not relieved, becomes so great as to jeopardize life. In the last year and one-half we have seen this complication occur on two occasions. The correction of the condition is amply considered by the author.

There seems to be no unanimity of opinion relative to the evacuation of blood in a hemopneumothorax. Whether the pleural cavity should be thoroughly cleansed of blood is a matter to be determined by the individual surgeon, and necessity for its removal, or otherwise, would seem to depend very largely on the probability of infection. Certainly so excellent a culture medium as blood should not be left to encourage the growth of organisms in the presence of probable infection.

The speaker stresses the tendency to hemostasis by the compression an elastic lung exerts on a laceration as the organ collapses. He does not stress the contrary factor that the constantly moving thoracic cage encourages continuing hemorrhage when the lesions are in the wall. It is our experience that a bleeding intercostal artery until ligated continues to act as a source of hemorrhage. Also, costal fragments penetrating lung parenchyma continue to act as deterrent factors to recovery until they are removed.

It would seem after the primary shock of a widely opened pleural cavity has passed that such surgery as is demanded for control of hemorrhage, evacuation of blood clots, or removal of fragments should be as safely accomplished in this part of the body as in any other.

✱

A. LINCOLN BROWN, M. D. (490 Post Street, San Francisco).—There are certain fundamental differences in the physiology of the thoracic cavity as compared with that of the abdominal cavity which renders different the treatment to be accorded penetrating wounds of these two regions. We cannot carry the acknowledged principles of traumatic ab-

dominal surgery directly over to the care of penetrating wounds of the thoracic cavity. First: The importance of the maintenance of the intra-abdominal pressure relationships are as nil compared with the serious difficulties which may result from changes in the intrathoracic pressures, especially if these changes are brought about suddenly. It might be mentioned in passing that opening the abdominal cavity alone may produce pressure changes which are of more importance in the thoracic cavity than in the abdominal cavity itself. Second: None of the organs of the thoracic cavity are ever at complete rest and it is impossible to bring them to such a state. On the other hand, many of the abdominal organs are normally in a state of at least comparative immobility. Third: Hemorrhage, its occurrence and disappearance, differs in the two cavities. Blood pressure in the pulmonary circulation is about one-sixth of that in the abdominal circulation, and hence bleeding in the former case is more easily controlled than in the latter. In certain instances we use the abdominal cavity as a place to put blood for a transfusion; we would not think of injecting blood for such a purpose into the pleural cavity because blood behaves differently when free in these two spaces. In the abdominal cavity it appears to be rather readily absorbed and causes no other damage. In the thoracic cavity blood is at best slowly absorbed. It is prone to become infected. Its presence causes a diminution in the available respiratory space and in large quantities may produce serious pressure symptoms. When finally absorbed it leaves a thickened pleural surface, disturbing the normal respiratory movements of the lung. Frequently, also, large fibrin clots remain which require surgical extraction.

It is with an understanding of the differences in the physiology of the two cavities that rational methods of treating penetrating wounds of the pleural cavity are being evolved.

The problem as to what should be done with the blood which has collected in the thoracic cavity is at present a moot question. I personally believe in early and repeated aspirations accompanied by replacement of the aspirated blood with oxygen or air with the aid of a pneumothorax outfit.

I believe in the removal of the hemothorax because it (1) lessens the danger of infection and empyema; (2) allows the more rapid expansion of the lung and restoration of normal intrathoracic relationships; (3) lessens the ultimate thickening of the pleura with fibrin and subsequent distortion of the expanding lungs; (4) statistically, aspiration has reduced the mortality in a large series of collected cases about 15 per cent.

As I have shown, the blood fluid which has been withdrawn is suitable for immediate reinfusion, *i. e.*, autotransfusion, a method which is often both practical and advisable.*

✱

DOCTOR STEPHENS (Closing).—It has been our experience in the treatment of tension pneumothorax that, once the increased intrathoracic pressure is properly controlled, the source of the pneumothorax rapidly closes. Needle drainage, therefore, is required only twenty-four to forty-eight hours. Infection rarely results in such a short period.

The experience of Doctor Fairchild, as regards a bleeding intercostal artery, is quite in keeping with our own. Injection of air into the thoracic cavity has no effect on a bleeding intercostal vessel, and such hemorrhage usually requires operative exposure and ligation of the offending vessel.

* A. Lincoln Brown and Martin W. Debenham: Autotransfusion—Use of Blood From Hemothorax, J. A. M. A., Vol. 96, April 11, 1931.

CLEFT LIP AND PALATE—ITS SURGICAL CORRECTION*

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DISCUSSION by John Homer Woolsey, M. D., San Francisco; Emile Holman, M. D., San Francisco; Emil F. Tholen, M. D., Los Angeles.

THE literature on cleft lip and palate dates back to the time of Aurelius Cornelius Celsus, a contemporary of Tiberius, who lived from 42 B. C. to 37 A. D. and who described an operation for cleft lip. Since that time over two thousand books, articles, and treatises have been published relative to this branch of surgery. Recently a well known editor of a medical journal stated that further articles for publication on these subjects were unacceptable. Yet statistics tell us that almost 80 per cent of all palatoplastic surgery results in failure in some form. If the same percentage of failures occurred in other branches of surgery a general alarm would be broadcast.

Due to the fact that the deformity is so conspicuous and so distressing as to rob the individual of correct speech as well as making him an object of commiseration or ridicule to others, is it not time that the profession takes a definite stand to lower the percentage of failures in this type of surgery? Unfortunately, surgeons especially trained in this work are few, and in view of the seriousness of the deformity these patients should be cared for by them. Yet clinical histories from a large number of both clinic and private patients show that dentists, osteopathic surgeons, general practitioners, and others have done cleft palate operations in an attempt at correction.

REASONS FOR FAILURES IN CLEFT PALATE OPERATIONS

There is no doubt of the frequency of failures, whether or not due to a lack of understanding or the fact that any type of correction, good or bad, is better than the original deformity. Nevertheless the fact remains that a busy palatoplastic surgeon's practice is largely made up of patients for whom failures have occurred. In order properly to appreciate the reasons for so many failures one must consider that there are:

1. Sixteen types or forms which the cleft may assume.
2. Differences of opinion as to: (a) Time of operation. (b) Order or sequence of operation. (c) What constitutes a result. (d) Technique to be employed.
3. Individualistic tendencies among surgeons.
4. Insufficient funds available for the care of the patient.

Brophy classifies cleft palate into sixteen types, dependent upon the form and extent of the cleft. Nine of the sixteen require operations in early

infancy to unite the separated bones, one type is inoperable, and there are twelve which require closure of the so-called soft palate, which really means all of the overlying soft tissues from the uvula forward.

When a patient is presented for possible operation the surgeon must decide, primarily, the type of cleft; secondarily, the proper time at which to operate; and then, the order or sequence of the operations.

In clefts of the palate wherein there is lip involvement the usual tendency is to attempt correction of the cleft lip as early as possible. Many surgeons operate upon the lip as early as the first twenty-four hours of life, claiming that the child improves faster, that the shock is lessened, and that the feelings of both parents and friends are assuaged. Moreover, they claim that traction produced by the action of the united orbicularis oris will move the cleft bones together in such approximation that the bone operation is either unnecessary or at least greatly facilitated.

While these claims are entirely within the realm of possibility and in certain respects quite commendable, yet due consideration must be given to the difficulties involved if the lip operation is done prior to obtaining a bony union. The bone cleft presents a problem not unlike an ununited fracture with the tissues overlying it spread open but healed. It is difficult to believe that the same surgeons who advocate closing the lip first would close separated but well healed flaps over a fracture of the femur, and after union of the soft tissues had occurred proceed to set the fracture. It is contrary to surgical principles. Plastic surgery of the face teaches the importance of obtaining a proper bone foundation if the soft parts are to be normal. Therefore the entire groundwork for operations on the lip, nose, and soft tissues of the palate is dependent upon the formation of a united bony arch. Moreover the palatal plates are abnormally elevated during the formation of the cleft, and if the bones are simply approximated without being united the elevation remains the same. Then, too, there arises the problem of orthodontia after eruption of the teeth. While practically all cases of cleft palate involving the bones require orthodontia, whether operated upon or not, those which have been merely approximated without union present a serious problem for the orthodontist. If it becomes necessary to widen the arch in order to obtain normal occlusion and there is nonunion, the outward movement separates the approximated bones and widens the cleft. Orthodontists who recognize this condition oftentimes refuse to accept these patients until a surgeon has effected a bony union so that normal occlusion may be obtained without creating a greater deformity. In the majority of instances the nose is flattened and deformed and if the lip is closed prior to the bone operation, not only is there much less room in which to work on the palate afterward, but the undercutting and tissue trauma necessary to bring the nose over to the median line is increased to the exact width of the bony cleft.

* From the division of plastic surgery, Stanford University School of Medicine.

* Read before the Surgery Section of the California Medical Association at the fifty-ninth annual session, Del Monte, April 28 to May 1, 1930.



Fig. 1.—A cleft which was approximated by closing the lip first. An orthodontist would probably increase the cleft if expansion of the arch was attempted. Note the widespread tuberosities and the irregularity of the teeth in spite of the fact that no wires were used. Failure resulted because the bones were not united before other operations were attempted.



Fig. 2.—Casts of same mouth, showing in "A" condition prior to lengthening palate. By utilizing two-thirds of the palatopharyngeal muscle on each side, a long flexible palate was obtained as shown in "B."

For these reasons Brophy early advocated the correction of the cleft in the bone before the lip operation was done. The time element is important, for the bone operation depends upon moulding or bending the bones to their proper positions and retaining them until union occurs. The jaws of an infant at birth are only 50 per cent calcified, but after the sixth month calcification goes on quite rapidly; some of the teeth are erupting and the moulding process is accomplished with great difficulty. The preferable time for the bone operation is between the sixth week and the third month, and if union is obtained the lip is closed six weeks later.

BROPHY OPERATIONS

The Brophy bone operation has many ardent followers as well as many critics. Chief among the criticisms offered are the following:

1. The time element. Many men criticize the procedure because it takes longer to insert the double wire sutures than it does to place a single wire suture through the anterior part of the cleft.
2. Displacement of tooth buds.
3. Dietary upsets and shock.
4. Sloughing of tissues under the lead plates.
5. Union of bones unnecessary.

While it is admitted that the time required for the complete Brophy bone operation is greater than that for the single wire suture operation, the results obtained warrant the procedure. In the first place, the Brophy bone operation, properly done, lays the foundation for the series of operations which follow on the lip, soft tissues of the palate and nose, and still later for the orthodontia which is necessary. Secondly, the posterior wires prevent spreading of the tuberosities with the sequelae which follow in the wake of such spreading. The displacement of tooth buds by wiring is usually found to be a technical fault. Now and then a tooth bud is lost because it lies in the cleft and interferes with union, but care in manipulation of the pilot suture needles,



Fig. 3.—X-ray showing cleft still present in spite of approximation. Wires have not been used, yet note the irregularity of the teeth.



Fig. 4.—X-ray showing bony union following greenstick fracture operation. The sliver wire is in place, the cleft is closed, and a firm bony arch is formed. With this foundation other operations to close the soft tissues will follow.

changing their course if a tooth is encountered, should prevent distortion or loss. Dietary upsets and shock are avoided if operations are done at the proper time and the child is under the care of a pediatrician. Advocates of appliances for moving the bones slowly together instead of the Brophy bone operation claim these two points, but it would seem that more disturbance in diet would occur if a spring-regulated mechanical device, held in place by six or eight sharp-pointed prongs piercing the bone, were used. Moreover, there would be no lowering of the elevated palatal plates, so necessary for the normal development of the alveolar ridges. Sloughing of tissues under the lead plates in the Brophy bone operation is unknown. A few cases of slough have occurred in the soft tissue operation when improper use of the lead plates was made, but this writer has never seen sloughing occur following their proper use in the bone operation, even though left in place over two years, due to the patient's illness and inability to return. If union of the bones is considered unnecessary in order to obtain a result, it is an opinion not in accord with views held by some of the best specialists in this field.

END RESULTS

The end results of all palatoplastic surgery should be:

1. A firm bony union of the maxillae and premaxillae.
2. Soft tissues perfectly united throughout, long enough to close the postpharyngeal space, flexible enough to control the amount of air passing through the oronasal communication, and resilient enough to allow normal respiratory function.

These factors are within the reach of every surgeon who does this type of work. It must be remembered, however, that in a cleft of palate or lip there is enough tissue, but only enough to form a normal palate or lip. The tissues are merely ununited and malposed. In practically every case there is no deficiency. Therefore it is necessary to conserve all tissues at the time of operation. Nor is mere closure of the soft parts enough. A soft palate which is united at the expense of heavy scars or thickened short flaps, leaving the postpharyngeal space open so widely that normal speech cannot be attained, is a poor substitute for what may be given a patient through better understanding and careful technique.

TECHNIQUE

Students of this subject find themselves all at sea in choosing a technique to be employed for a particular case. In conversation with the chief of the surgical staff of one of our large universities recently, relative to palatoplastic surgery, he stated that of the many cases operated upon, practically every type of technique advocated had been tried out in the hope of reducing the proportion of failures. With so many conflicting opinions and so many individualistic tendencies among operators, it is difficult to lay down rules or fundamental laws which will work to the best

advantage of the patient. However, if failures are to be avoided certain standard principles must be adopted.

If it is agreed that a long flexible palate, capable of perfect function and speech, is desired, there are reasons enough to warrant forming a foundation by uniting the bones first. These reasons may be summed up as follows:

1. Normal foundation for lip, nose, and soft tissue operations.
2. More nearly normal occlusion of the teeth.
3. Foundation for orthodontic treatment.
4. Prevention of oronasal sinuses.

Each case which presents for surgical correction, early or late, should be studied and an attempt made to obtain a bony union prior to other operations. Early cases may require only the typical Brophy bone operation. If the patient has never been operated and is over six months of age, it may be impossible to obtain complete closure of the bones at the first operation, but if the wires are tightened at different times closure may be effected. Older patients require a green-stick fracture operation in order to get the separated bones into contact so that union may occur. This is done by chiseling through the outer alveolar plate in the region of the cuspid eminence, thence across under the floor of the nose and, leaving the lingual plate intact, a green-stick fracture is made, the bones brought together and held in place with silver wires. While such an operation seems radical, the importance of bony union cannot be overestimated. When a united bony arch has been made, success in future operations may be expected, for the majority of failures in palatoplastic surgery are primarily those in which there has been failure in the bone operation.

Following the bone operation, closure of the lip is made. Surgery of the cleft lip involves surgery of the nose in many cases. It must be remembered that in all clefts where the bones are separated a floor must be constructed for the affected nostril or both if necessary, otherwise a persistent oronasal sinus will result. Any operation which does not sacrifice lip tissue, which will bring the nose into normal position and give normal shape and contour to both nose and lip, should be the operation of choice. The surgeon must avoid: (1) Sacrificing too much tissue. (2) Making the lip too long. (3) Lack of central fullness. (4) Notches in the lip. (5) Scar tissue. (6) Tension. (7) Infection.

Equalization in length of flaps, approximation of broad, flat surfaces, union of muscle elements, and care in uniting skin with skin, and mucosa with mucosa, are the fundamental principles of lip surgery. Closure may be made at any time if there is no cleft of the bones, but if the bone is involved clefts of the lip are closed at the time the wires are removed from the cleft bones. This is usually six weeks after the bone operation, and saves the patient a second anesthetic, which is important when a series of operations are necessary. Tension is best avoided by proper undercutting, careful approximation, and the use of the Logan traction bow. Scar tissue may be overcome

in most cases by relieving tension, perfect adaptation, and early removal of sutures. Too many sutures must not be used. Infections of the lip should not occur. The use of the quartz light will oftentimes clear up mild infections, prevent seepage, and dry up a "wet" lip. Allowance is always made for some shrinkage in the midline.

Closure of the soft tissues of the palate is best done just prior to the time the child learns to speak. The advantages gained in waiting are that the flaps are better nourished, the elevated plates are more nearly normal, the arch is rounded out by the erupting teeth, resistance to infection is greater, and the feedings are farther apart. Flaps are raised with special periosteal elevators, well toward the linguogingival areas and posteriorly far back over the hamular process of the sphenoid. A definite right-angle excision of a tiny portion of the flaps in the midline from the tip of the uvula forward to the end of the cleft is better than any attempt at splitting the flaps. Broader surfaces are brought into contact for healing. Sutures must not be placed too closely together and tension must be avoided. Horsehair is the material of choice. Due to the independent movement of the muscles contained in each flap, the pressure of the tongue in swallowing, vocalization, etc., a splint of some kind must be used. In 1883 Brophy designed and used silver wires and lead plates to act as a splint to hold the lateral flaps in place during the healing process. By placing the posterior wire through the tensor palati muscle on each side, and the anterior wire slightly in advance, the splint causes the lateral flaps to move in unison without disturbance to the healing surfaces. Moreover the ends of the wires when bent down and twisted upon the lead plates cause discomfort to the patient when the tongue is raised in forceful swallowing, crying, sucking, etc., and render other appliances unnecessary. The splint must not be made tight enough to cut off circulation. It is not placed to pull the tissues forcibly together. All tension must be relieved by undercutting, and not by means of the silver wires and lead plates. The plates must be well away from the suture line and contoured to the shape of the palate. Most important of all is the avoidance of tissue trauma in this operation. Small hooks are used to handle the tissues instead of forceps. Postoperatively the wound edges are kept clean by irrigations following each feeding and painted with Berwick's dye.

It must be noted that lateral incisions are not used. Proper flap formation, avoiding the spreading of the tuberosities in the primary operation, and the use of the splint renders their use unnecessary.

SECONDARY PALATE DEFECTS

Secondary palate defects are many and varied and oftentimes require all the ingenuity at the surgeon's command. The French gliding flap method is oftentimes efficient for small openings. Ollier-Thiersch, Wolfe, and the Gillies tubed pedicle grafts have all been used in some otherwise hopelessly inoperable cases.

Where a short, tense, scarred palate exists, even though closed, normal speech can never be attained until the palate has been lengthened. This is best done by utilizing two-thirds of the palatopharyngeous muscle on each side, freshening the edges and adding on to the end of the palate.

Following this operation, speech training is advocated. In all cases, if speech has been learned prior to closure of the soft palate, even though a long, flexible palate is made, speech training is necessary. The surgeon can give the child the instrument of speech, but the child must be taught to correct the defects acquired in speaking abnormally. Some surgeons feel that cleft palate patients never attain perfect speech, but this is not true.

Proper attention to detail, time, and sequence of operations and a thorough understanding of technique are the factors needed to attain what should be the goal of every operator who attempts cleft palate surgery—perfect speech.

209 Post Street.

DISCUSSION

JOHN HOMER WOOLSEY, M.D. (University of California Hospital).—Experience and duration of time to observe leads one to safer and more practical conclusions. Experience with methods outlined by the author as well as with other methods, the opportunity to observe patients operated in childhood and now attained to their majority and who are certainly "the proof of the pudding," has taught me certain procedures of value. As a result, I am convinced beyond a doubt of the fact that the use of wires and lead plates—acute forceful measures—as outlined by the author, do not give as good symmetry of the alveolar processes; they more often cause a tipping in of the entire alveolar border; injure the dental buds in many instances; give greater irregularity of alignment of the permanent teeth; and are a decidedly severe procedure leading at times to shock and even death, and the latter even in a master's hands. On the other hand, the nonemployment of the wires and lead plates, but the early closure of the lip (that is within the first six months surely, and even up to eighteen months) gives a symmetrical, normal arch to the anterior margin of the palate exactly comparable to the normal maxillary arch; aids closure of the palate by the gradual approximation due to the pull via the lip muscles, and results, in the majority of instances, in equally as good or better speech.

Figure 1 in the author's article does not represent the true result of closing the lip first. It would appear that either the closure of the lip was effected only after bony formation had occurred or, unwisely, closure of the palate was first attempted.

The comparison of the closure of a cleft palate by closure of the lip first to the reduction of a fracture with intervening soft tissues is inappropriate, for there is firm bony formation above the cleft process; the closure of the periosteal flaps of the hard palate eventually gives a bony union and later periosteal flaps can be brought into approximation from the alveolar edges, thereby giving exact bony union. Thus there never follows any such mobility or deformity as in an ununited fracture, as many readers of this article might interpret from the comparison made.

There are some patients who, unfortunately, have had all tissue available for closure entirely used up in plastic attempts. For these I would recommend the artificial palate which functions satisfactorily and can be constructed by any dentist at a minimum cost and without putting the patient through a wearisome, costly and, as a rule, unsuccessful Italian flap method, which occasionally is most unwisely attempted.

Speech is very good at times, but in every instance is the result of personal endeavor on the part of the patient. Fortunately speech training is now available to all who need the same through the school system of our State of California.

✱

EMILE HOLMAN, M. D. (Stanford University Medical School, San Francisco).—In considering any subject containing within itself so many controversial elements as the proper procedure to follow in the operative correction of cleft palate, it is well to remember one of the aphorisms of Hippocrates: "Life is short, the art long, the occasion fleeting, experience fallacious, and deduction difficult." The occasional operator for cleft palate will undoubtedly be baffled by the intricate and sometimes difficult application of the Brophy procedures, and the results in his hands cannot be anything but discouraging. Logically, in planning any structural engineering it would appear preferable to build first the framework and then apply the covering. The bony defect in a cleft palate requires correction as certainly as does the approximation of the soft parts, and if this can be accomplished without destruction of other important tissues, such as the unerupted teeth, logically this should be done first. Brophy and his students assert that this can be done, and certainly the large experience of the former demonstrated not only that it is feasible, but also that it is desirable.

Of one point there can be no question—the desirability of providing a sufficiently long and flexible soft palate to permit a proper closure of the nasopharynx in the function of speech. Brophy's results in this respect were most gratifying and are undoubtedly the most important evidence favoring the application of his principles. The utilization of the palatopharyngeal muscles to lengthen the palate has also proved its worth when previous operations have resulted in a tense and shortened palate.

It is well in considering the subject of cleft palate to remember also that when the great artist, Nature, has failed, mere man is doomed to many disappointments in attempting to correct her mistakes. Limited experience may be fallacious, but a wide experience is instructive, and would seem to bear out the correctness of the logic of the Brophy procedures.

✱

EMIL F. THOLEN, M. D., D. D. S. (1136 West Sixth Street, Los Angeles).—My experience with over two hundred of these cases leads me to endorse Doctor Woolsey's opinions and findings. Years ago I felt as Doctor Davis does about repair of the palate, but was forced to abandon the Brophy operation because of the results obtained not only in my own work, but in at least a dozen cases that came under my care that had been worked on by Doctor Brophy. I mention this so that it cannot be said I did not use his technique correctly. There is no question that the teeth buds are destroyed and misplaced by that operation, and the results expected in the way of bone union and normal replacement are not obtained any more often than with simple lip closure. We now use the Brophy operation only in older children with wide clefts and badly misplaced premaxilla. In some cases we find it necessary to place one wire after molding the bone in close approximation and then closing the lip over it. Doctor Moorehead demonstrated this method over ten years ago. In single clefts we are using the Blair method of lip closure and are obtaining better results than ever before.

I have the highest regard for Doctor Davis' work and his keen interest in plastic and oral surgery, but in this field, I regret to say, our ideas differ widely.

✱

DOCTOR DAVIS (Closing).—During Doctor Brophy's lifetime, devoted almost exclusively for forty-five years to cleft lip and palate surgery, approximately sixty-five hundred cases were operated upon by him. In 1923 he published a book in which he reported

over five thousand cases. If experience and duration of time led him to safer and more practical conclusions, surely he would have been won over to the "procedures of value."

The antagonism to the Brophy operation is usually traceable to the few cases seen by other surgeons wherein failure had occurred. Any surgeon who does a large number of cleft palate cases will have a certain proportion of failures. I make no claim to offering the Brophy technique as a panacea for failures. No doubt, in the hands of men untrained in this technique "tipping of the entire alveolar border, injury to tooth buds, irregularity of teeth, etc.," does occur. But when these things do happen, and the cause is ferreted out, a lack of understanding of the proper technique is responsible. "Shock" and even "death" are two things which every surgeon must face. In the city of Chicago in 1921 the death rate from all causes in all infants born was 12.99 per cent. Brophy's series of over five thousand cleft palate cases prior to 1915 shows a mortality of 5.2 per cent, and after 1915 1.80 per cent, even including those who died while under observation two to three months after operation.

I am sorry to find such a variance of opinion as to what constitutes a symmetrical, normal dental arch. The whole object of this paper has been to show why a symmetrical, normal, united bony arch, with normal tuberosities cannot occur where it is dependent upon the traction of the lip muscles. Approximation, yes, but firm bony union never. How simplified cleft palate surgery would be were it possible to treat it, not as an ununited fracture with intervening soft tissue, but as an operative procedure involving only the turning of flaps, never followed by any mobility or deformity.

Figure 1 was chosen at random from many similar casts—some showing more and some showing less approximation of the bones as the result of closing the lip first. Closure of the palate was not attempted first.

BENZOL POISONING*

REPORT OF CASE

By D. SCHUYLER PULFORD, M. D.
Woodland

DISCUSSION by John Martin Askey, M. D., Los Angeles;
Ernest H. Falconer, M. D., San Francisco.

CHRONIC benzol poisoning should be considered in the differential diagnosis of severe anemias associated with hemorrhage or purpura. Especially is this true if the purpura or the bleeding, which may be from gums, stomach, or uterus, is accompanied by a low platelet and white blood cell count. Without a history of exposure to benzol the differential diagnosis from aplastic anemia, thrombocytopenic purpura and agranulocytosis is difficult, if not impossible.

LITERATURE ON BENZOL POISONING

From Germany, where benzene (benzol) was first made extensively, came some of the earliest reports of poisoning as in Santesson's¹ article, published in 1897, in which he reported nine cases of poisoning, with four deaths, of girls working in a tire factory. Selling² as early as 1910 described chronic benzene poisoning of girls working in canning factories where rubber dissolved with benzene was used as a sealing fluid. He called attention to hemorrhagic purpura in some of these cases.³

* From the department of medicine, Woodland Clinic, Woodland.

* Read before the Nevada State Medical Association at Reno, Nevada, September 26-27, 1930.

When all trade with Germany was cut off in 1914 at the time of the World War, it was necessary for the United States to make large quantities of benzene products. After the war, great quantities of cold-tar distillates were thrown on the market, the price falling to the point where they could be economically substituted for the formerly cheaper petroleum solvents. Benzol then became widely used in the rubber industry, manufacture of tires, cement for the soles of shoes, sealing mixtures for use in canneries, manufacture of straw hats, and fabrikoids, and as a substitute for gasoline for motor fuel. Petroleum distillates were also replaced by the benzene series in the making of rapidly drying varnishes, paints, and shellacs, as well as in the dry-cleaning industry.

Alice Hamilton⁴ in 1917 called attention to fourteen cases of acute benzol poisoning with seven deaths in workmen engaged in the manufacture of explosives. This is probably the first article calling attention to acute benzol poisoning in American industry. In 1922⁵ she repeated her warning against this growing hazard of benzol poisoning in America. In 1928,⁶ however, she pointed out that due to the efforts of the Committee on Benzol Poisoning, appointed in 1922 by the National Safety Council, there had been by 1926⁷ a great lessening in the menace of benzol poisoning in American industry.

Winslow⁸ in 1927 summarized one hundred cases from the American and European literature with 50 per cent mortality, and mentioned the first acute case as having occurred in 1862. A. R. Smith in 1928⁹ reported upon chronic benzol poisoning among women workers in six factories. This article contains a very good bibliography, which, together with that included in the final report of the Committee on Benzol Poisoning of the National Safety Council, 1926,⁷ gives one a comprehensive review of the literature.

The substitution of toluol for benzol for dissolving lacquers in the paint industry and the introduction of rubber latex¹⁰ as a substitute for rubber dissolved in benzol reduced the hazard very remarkably in these two industries. The painting and tire and rubber goods industries had produced the majority of cases of benzol poisoning.

The literature in the last few years reports occasional cases of benzol poisoning from France, Germany, and America. Sweeney¹¹ and Askey¹² have recently called attention to the similarity clinically of benzol poisoning, acute aplastic anemia, and hemorrhagic purpura.

The following case of benzol poisoning in a painter is reported to emphasize the important points in differential diagnosis and to call attention to the ever-present menace of benzol to the American workman.

REPORT OF CASE

A man, age forty-six, a painter for twenty-seven years, entered the clinic March 12, 1930, complaining of dizziness, weakness, and bleeding from the gums. Family history was negative for bleeding, anemia, tuberculosis, or cancer. Patient's general health since

childhood had been excellent, except for attacks of "painter's sickness" from time to time. Up to one year ago he had had occasional "Monday morning sickness" associated with weak wrists.

Present Illness.—In March 1929, patient had lead colic for ten days with vomiting and diarrhea. Unable to stop painting, he had either nausea or vomiting almost daily for the past year. Four weeks before admission, after painting furniture with some quick-drying shellac in a closed room, he became dizzy, extremely weak, had abdominal cramps, and was forced to stop work. His gums began to bleed intermittently and soon showed a continual ooze. There was no purpura, jaundice, mental symptom, colic, or wrist drop. He was so weak that he remained in bed for three weeks before entering the clinic. Constipation was marked. He complained of numbness of the fingers and toes.

Physical examination showed an emaciated, weak, bedridden patient with an ashen gray pallor to the skin, and pale mucous membranes. There was neither ecchymosis nor jaundice. The gums were hidden from sight by adherent blood-clots and a continual oozing. There was no lead line, although the hygiene of the teeth was bad. A precordial systolic murmur was present. The lungs were clear; spleen and liver were not felt.

The essential laboratory findings were: hemoglobin, 21 per cent; red blood cells, 1,200,000; white blood cells, 19,400; polymorphonuclears, 26 per cent; occasional normoblast; no basophilic stippling; platelet count, 94,000; noncontractile clot (five and one-half hours). Bleeding time was four minutes; coagulation time six and one-half minutes; reticulated red blood cells, one per cent; fragility of the red blood cells normal. Blood Wassermann was negative. Tourniquet test was weakly positive.

A diagnosis of benzol poisoning, with secondary anemia, was made.

Progress.—After two transfusions of 500 cubic centimeters of citrated blood, the white blood cells rose in six days from 1940 to 8200; polymorphonuclears rising from 26 to 76 per cent. Although the hemoglobin was only 35 per cent and red blood cells 2,290,000, the bleeding from the gums had entirely stopped. A week later the hemoglobin was 56 per cent with 3,050,000 red blood cells, and the platelets a normal figure of 300,000. A high vitamin diet had been instituted and quartz mercury light treatments given. On April 4, 1930, twenty-three days after admission the following blood picture was noted: hemoglobin, 70 per cent; red blood cells, 4,750,000; white blood cells, 12,800; polymorphonuclears, 63 per cent; no basophilic stippling; coagulation time, four minutes; bleeding time, two minutes; retractility of clot, five hours. Tourniquet test was weakly positive.

Thinking that the patient might have considerable stored lead, because of his long contact with paint and his former frequent attacks of colic, he was given large doses of calcium lactate in milk and ammonium chlorid with magnesium sulphate daily. The plasma carbon dioxide reduced under this deleading treatment to 54 volumes per cent, but at no time was basophilic stippling seen in the red blood cells, nor did symptoms of lead poisoning intervene.

The patient left the hospital April 14, 1930, thirty-three days after admission, feeling quite well, having gained fifteen pounds in weight, and with a normal blood picture. He has been well ever since.

PATHOLOGY

Benzol poisoning occurs in both acute and chronic forms. Newton¹³ in 1920 gave a valuable report of its early stages. Three chemists were exposed to moderate doses for two weeks. One became ill with headache, weakness, anorexia, and weight loss followed by sudden abdominal cramps, nausea and vomiting. His blood count showed

1200 white blood cells with 39 per cent large mononuclears; 4,760,000 red blood cells, and hemoglobin 80 per cent; a striking leukopenia without reduction of red blood cells or hemoglobin. The other two men with similarly reduced white blood cells, 1250 and 1700, respectively, and with a little more anemia, did not have symptoms. Removing the poison resulted in recovery of all three, no treatment being necessary. This emphasizes the importance of early and periodic blood counts in workmen exposed to benzol and indicates the earliest pathologic action to be reduction of the white blood cells.

Newton noted in other cases that repeated exposures to benzol over long periods of time did not produce a leukopenia, therefore indicating that its action was not cumulative. He also showed that the maximum white blood cell destruction did not take place for several hours after the onset of symptoms. Autopsies and animal experimentation show that acute poisoning may be very rapidly fatal in both man and animal, but that susceptibility varies widely in the different individuals. In acute poisoning the blood becomes chocolate brown in color, there is hemorrhage into the gastric mucosa, bloody foam in the bronchi, and venous engorgement. These symptoms are followed by muscular twitching, deep narcosis, and respiratory paralysis which causes death. In studies of the pathology of chronic benzol poisoning, Selling's¹⁴ researches and the reports of Duke¹⁵ and others show the following:

(a) Direct destruction of white blood cells with failure to reform.

(b) Direct destruction of blood platelets after a preliminary rise, and the cells that produce them, the bone marrow megakaryocytes.

(c) Destruction of red blood cells and prevention of regeneration of the same.

These changes occur in the order given, the polymorphonuclears suffering most. They call attention to the fact that with an associated acute infection the white blood cells may not be reduced.

Rusk¹⁶ in 1914 reported the interesting fact that chronic benzol poisoning prevents animals from developing hemolysins and precipitins as efficiently as normal. This may explain why some of these patients lack resistance to infections, a characteristic of agranulocytosis also.

Sweeney¹¹ reported a case of chronic aplastic anemia with hemorrhagic purpura in a patient exposed to benzol who at autopsy showed hemorrhages into the brain substance and, subdurally, hemorrhages into the kidney, epicardium, pleura and retroperitoneal surfaces, as well as under the skin. The spleen weighed only 250 grams, and the exposure to benzol was definite and marked. The bone marrow showed a moderate increase in blood formation in ribs and vertebrae with the fat still preserved, but focal hypoplastic areas for the red blood and the white blood cell series. The tendency to purpura and bleeding from mucous membranes is associated with the low platelet count and is an almost constant finding in the many autopsies reported.

Batchelor¹⁷ has reported from experiments on animals that toluol, xylol, and high-flash naphtha,

recommended as substitutes for benzol, though more poisonous, are so much less volatile and of such disagreeable odor that they can be used with greater safety.

Autopsy findings describing the usual bone marrow changes are well recorded in the case reported by Rohner, Baldridge, and Hansmann¹⁸ as follows: "Marked hematopoietic insufficiency as evidenced by leukopenia and low platelet and red blood cell counts was seen to be due to failure of the marrow cells to produce either granulocytes or megakaryocytes. The few bone marrow cells present contained inclusions of pigment, some being obviously endothelial phagocytes and others resembling nongranular myelocytes.

"The lymph node system is less disturbed, but cells are small; the endothelial system is less damaged than the lymph cells and the lymph cells not as much as the myelocytes and megakaryocytes. The patient described died of a bronchopneumonia, sections of the lungs showing, as usual, no inflammatory cells about the fibrin in the lung alveoli."

To sum up the pathologic findings of benzol poisoning we have: (a) leukopenia; (b) aplastic anemia; (c) thrombocytopenia; (d) aplasia of bone marrow; (e) absence of inflammatory cells in response to infection.

DIFFERENTIAL DIAGNOSIS

The criteria for establishing the diagnosis of benzol poisoning as stated in the report of the United States Public Health Service in coöperation with the National Safety Council⁷ are as follows: "A history of exposure to benzol and a white blood cell count below 5600 is accepted as reasonable evidence of poisoning."

Benzol poisoning must be differentiated from the several pathologic states in which leukopenia and anemia are found together. Thrombocytopenic purpura with splenomegaly, and agranulocytosis and aplastic anemia without splenomegaly, show the greatest similarity to benzol poisoning.

Agranulocytosis with its anemia, leukopenia, relative lymphocytosis hemorrhage, and gingivitis resembles benzol poisoning, but it lacks as a rule a history of benzol exposure. In benzol poisoning the spongy oozing gums seldom ulcerate or become gangrenous, nor do they slough or involve laryngeal or pharyngeal tissues. Agranulocytosis may, however, be unaccompanied by appreciable involvement of the oral mucous membranes. In benzol poisoning neither ulcerations nor a bacteremia occur, nor is there much fever unless terminal, while in agranulocytosis fever is an early and persistent feature. In agranulocytosis the coagulation time, bleeding time, platelet count, and retractility of blood-clot are not affected, while in benzol poisoning reduced platelets, prolonged bleeding time, and a positive tourniquet test are usually found.

A history of exposure to benzol may be the only differential point separating benzol poisoning from thrombocytopenic purpura, although in the latter purpura is more likely to be outstanding as a clinical feature and oozing from the gums in the former. Late in the course of a thrombocyto-

TABLE 1.—*Diseases With Anemia and Leukopenia*

	Benzol poisoning	Agranulocytosis	Thrombocytopenic purpura	Aplastic anemia
Red blood cells reduced	+ + +	+	+	+ +
White blood cells reduced	+ + +	+ + + +	+	+ + +
Lymphocytes	+ + +	+ + + +	Normal
Platelet count reduced	+ +	+ + + +	+
Coagulation time increased	Normal	.....
Bleeding time increased	+	+ + +
Contractility clot prolonged	+	+ + +
Tourniquet test	+ +	+ + + +
Spleen enlarged	+ +
Reticulation of red blood cells	+	Normal	.....
Normoblasts	+
Fragility of red blood cells

penic purpura, a palpable spleen and a higher white blood cell count will be noted. Platelet count and non-retractility of blood-clot are often similar in the two diseases.

It is in an aplastic anemia of unknown origin that we find our most difficult differentiation from benzol poisoning. Here again a history of exposure may be the only definite differential point. Clinically the duration of aplastic anemia is usually not so long as for benzol poisoning.

None of the above should be confused with acute lead poisoning in which there is the characteristic syndrome of vomiting, gastro-intestinal pains, diarrhea, marked general weakness, and dehydration. Chronic plumbism should be easily differentiated by the lead line on the gums, basophilic stippling of the red blood cells and normal total leukocyte counts.

TREATMENT

Removal from exposure to benzol, transfusion, and symptomatic treatment result in the cure of the majority of early mild cases. If the dose has been large or exposure too long, nothing will save life. As an example, the case of an oil refinery worker reported by Sweeney in 1928¹¹ illustrates failure to respond to twenty transfusions, the patient dying seven months after treatment was started, with widespread hemorrhage throughout many organs. The failure of splenectomy in this case served merely to confirm the diagnosis of benzol poisoning as against thrombocytopenic purpura.

Individual susceptibility seems to be a greater factor as regards the outcome than does the amount or duration of exposure, and transfusion remains the mainstay of treatment.

Table 1 is shown to help visualize the main differential laboratory points between four closely allied diseases.

COMMENT

The prompt recovery of our patient, who had a very severe and long-standing poisoning by benzol, seems to emphasize the fact that the amount of benzol a person can stand, the severity of the

symptoms, response to treatment, and the ultimate outcome all depend more on individual susceptibility than on any specific treatment, though transfusions are probably always indicated.

A classification based on underlying pathology is the classification of choice in all diseases. Accordingly, benzol poisoning, aplastic anemia, and agranulocytosis are practically one and the same disease. We may separate them clinically, but the study of cases of benzol poisoning merely goes to emphasize this and argues that until we find a more definite and fixed etiology we cannot separate agranulocytosis and aplastic anemia.

The fact that chronic benzol poisoning in animals prevents the normal development of hemolysins and precipitins may explain their lack of resistance to infection seen in this type of patient. The similarity of benzol poisoning and agranulocytosis leads one to believe that the angina and other infective processes seen in this disease are secondary and not the primary cause of the malady.

The leukopenia of benzol poisoning was the observation which in the early days led to the benzol treatment of the leukemias.

SUMMARY

Acute benzol poisoning in a painter is described, showing hemorrhage from the gums, marked anemia, and leukopenia, which responded rapidly to repeated transfusions.

The case emphasizes the necessity of considering this fast-disappearing malady in the differential diagnosis of diseases which show marked leukopenia.

Woodland Clinic.

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DISCUSSION

JOHN MARTIN ASKEY, M.D. (1930 Wilshire Boulevard, Los Angeles).—Benzol poisoning has become a rare condition since the work of the National Safety Council led to a restriction of its commercial use. Sporadically, however, despite all precautions, its hydra head appears as a warning of its potential menace. This is especially true in considering all cases of leukopenia associated with mucous membrane bleeding. Admittedly the first clinical evidence of benzol poisoning is leukopenia, but the general physician will usually see the patient in the stage of bleeding gums, extreme anemia, and granulocytopenia. If benzol poisoning is not considered, the diagnosis clinically is usually aplastic anemia.

One great difficulty in making the right diagnosis is determining the exposure to benzol. The information usually is not proffered as the patient often does not consider his work an important factor and the doctor may not think to question closely. The diagnosis of true aplastic anemia may be made, a fatal prognosis given, and then, to everyone's surprise, the patient may recover. We feel every patient with leukopenia and bleeding symptoms should be questioned meticulously about the details of his occupation.

One patient we remember remained baffling for some time until it was discovered he scrubbed advertising panels eight hours daily with rags soaked in gasoline. This gasoline contained 17 to 40 per cent aromatic hydrocarbons of which benzol is the basic compound.

Doctor Pulford fittingly emphasizes the peculiar individual susceptibility governing both the development of poisoning and also the chances for recovery when removed from the benzol. In a can factory in Los Angeles where benzol was used in a sealing mixture for cans until the last two years, men had worked

for eight and ten years without any symptoms other than transient dizziness. Only one case of poisoning with bleeding occurred in that time, although if blood counts had been taken probably leukopenia could have been shown in others.

Similarly, the outcome of any case cannot be predicted by its initial severity. It apparently depends upon the inherent ability of the bone marrow to overcome the primary overwhelming shock, a factor that only time can determine.

We have seen a patient with a blood count down to one million red cells recover without a transfusion, but we also remember another patient whose red count was only reduced to 1.2 million red cells and who was given twenty-four transfusions and died.

We are thoroughly in accord with Doctor Pulford's inclusion of benzol poisoning, aplastic anemia, and agranulocytosis in the same category. They all are characterized by varying degrees of bone marrow depression. Agranulocytosis usually involves chiefly the granulocyte centers, often with death, before much anemia develops. In one patient, with typical agranulocytic angina, we observed an intense anemia gradually develop with widespread petechiae in the skin, and necropsy revealed an aplastic marrow. The last red cell count was 780,000.

Thus we believe it is rational to consider agranulocytosis and aplastic anemia as similar diseases differing only in degree. They both may be produced by the same bone marrow poison, arsenic. Benzol usually attacks the whole bone marrow, but the granulocytes first.

We should be alert to the ever-lurking menace of the poison benzol, and all cases, becoming rarer every year, should always be recorded.

✱

ERNEST H. FALCONER, M.D. (384 Post Street, San Francisco).—Doctor Pulford has covered the literature on benzol poisoning very thoroughly, leaving nothing of importance to be brought out in discussion. Dr. Emmett C. Taylor of San Francisco and I have been much interested in studying the blood pictures of a large number of workers in the several plants of a can manufacturing company. These studies have extended over a period of several years and bring out some interesting data bearing on what might be termed "latent benzol poisoning." Apparently the earliest change noted in the blood, according to our observations, is a diminution of platelets. This may be the only demonstrable clinical finding that occurs in latent cases. We have reason to feel, however, that the bone-marrow reserve (or a better term is the hematopoietic reserve) is considerably lowered. The reasons for this conclusion are that an individual taken away from exposure to benzol does not regenerate a normal number of platelets for several months. An infection such as influenza may precipitate a full-blown picture of benzol poisoning with leukopenia, anemia, purpura and hemorrhages in these individuals several months after removal from exposure to benzol. In one notable instance a man who had been exposed to benzol for fifteen years with no demonstrable signs of intoxication except a diminished platelet count (about 100,000 platelets per cubic centimeter) was removed from exposure and two years later developed an acute respiratory infection followed by a full-blown picture of benzol poisoning with a lethal termination. There is an interesting analogy here to the condition known as agranulocytosis because it has been definitely ascertained that the neutropenia precedes the clinical evidence of infection, thus suggesting that some toxin has paralyzed the granulocytic portion of the marrow before infection sweeps through the system.

✱

DOCTOR PULFORD (Closing).—The author appreciates Doctor Askey's emphasis of the paramount points in the problem of agranulocytosis associated with mucous membrane, bleeding and anemia, as brought out by this case report.

Doctor Falconer's observation of reduced platelet counts in latent cases of benzol poisoning preceding the leukopenia is worthy of a follow-up by all physicians in contact with factory workers or benzol poisoning suspects.

Also the idea of an infection such as influenza precipitating an acute benzol poisoning in a latent poisoning in an apparently otherwise healthy man is especially worthy of emphasis and should be used as a lever to command workers to cease contact with the poison long before they become ill.

Similarly, I have seen a simple influenza precipitate a fatal acute lead poisoning in one of our malignancy patients who was given, in divided doses 500 milligrams of diorthophosphate of lead intravenously in the treatment of cancer of the breast. The acidosis incidental to an acute infection with lead, as with benzol, precipitated poisoning.

THE CLINICAL ASPECTS OF CARCINOMA OF THE OVARY*

By LUDWIG A. EMGE, M. D.
San Francisco

WHILE studying the histogenesis of a group of ovarian carcinomata listed in our department for the years from 1920 to 1930 it seemed of interest to correlate clinical phenomena with laboratory findings. There were twenty-eight ovarian carcinomata listed, eighteen of which were from clinic patients. This latter group furnished the material discussed here.

Between the years from 1920 to 1930 there were 6714 new admissions and 5678 interdepartmental refers to the Stanford women's clinic. Of this number, 355 patients were afflicted with cancer of the genital tract, or 2.86 per cent. This low figure is deceiving and should be corrected to 5.29 per cent, constituting the true percentage of 355 malignancies in 6714 new admissions, since practically all of the cases discovered occurred in this group. Of the 355 genital malignancies, eighteen affected the ovary, or 5.07 per cent, or when figured on the basis of new admissions, 0.27 per cent.

During the same period we saw seventy-nine proliferating ovarian tumors exclusive of fibromata and sarcomata or, in comparison to new admissions, 1.18 per cent. Eighteen of these proliferating tumors were malignant, or 22.8 per cent.

ANALYSIS OF GROUP STUDIED

In analyzing this group of malignancies I found eight, or 44.4 per cent, to be of the solid, and ten, or 55.6 per cent of the cystic type. Seven, or 38.9 per cent occurred bilaterally, four cystic, and three solid. Eleven, or 61.1 per cent, occurred unilaterally, six cystic and five solid. Among the unilateral tumors, ten, or 90.9 per cent, were found on the right side.

Eleven of the eighteen patients, or 61.1 per cent, were found to have developed metastases when first seen. The following structures were found

to be involved: large bowel, five; abdominal viscera in general, four; mesenteric glands, one; and culdesac, one.

In the histologic study, the origin of the carcinoma was placed as follows:

Papillary serous cyst	5
Pseudomucinous cyst	1
Parovarian (Wolfian)	2
Dermoid	1
Granulosa cells	1
Gastro-intestinal tract (Including one Krukenberg tumor)	8

We may, therefore, assume that ten were of primary and eight of secondary origin.

With the exception of two patients not accounted for, all but one were dead prior to 1930. From the clinical picture present at the operation we may assume that the unaccounted-for patients will not be alive. In all instances followed up, death was due to ultimate carcinomatosis.

First two weeks after operation (carcinomatosis)	5
First six weeks after operation (carcinomatosis)	4
One year after operation (carcinomatosis)	2
Two years after operation (carcinomatosis)	1
Four years after operation (carcinoma of bowel)	1
Five years after operation (carcinoma of bowel)	1
Ten years after operation (carcinoma of bowel)	1
Alive after seven years	1
Not accounted for	2

Postoperative deep roentgen-ray therapy, in conjunction with radium irradiation in three, was used eleven times; with nine deaths, one patient alive, and one not accounted for:

First six months	2
After one year	2
After two years	1
After four years	1
After five years	1
After seven years	1

A comparison of the two tabulations does not materially change the gloomy prognosis for ultimate survival, although we may assume that irradiation, while not curative, certainly seems to prolong life.

There is nothing to be found in the literature to substantiate the assumption that removal of primary cancer of the ovary may lead to a complete regression of metastatic growth elsewhere in the abdomen. Although often spoken of among physicians as a fact, it must be regarded as a medical myth and quite contrary to what we know about cancer growth in general.

DIAGNOSIS DELAYED BY LACK OF SYMPTOMS

Carcinoma of the ovary, whether primary or secondary, offers such a gloomy outlook because of the absence of early symptoms. Menstruation, if still present, may not be influenced beyond the usual variation one encounters at various age levels. In our group, nine patients ranging in age from forty to fifty years, had passed the menopause from one to ten years, while the remaining nine, ranging in age from twenty-seven to fifty-two years, were menstruating regularly. There was a recent metrorrhagia (cystic adenocarcinoma of gastro-intestinal origin) in one instance, profuse flow in two, moderate in two, and scanty in four instances. In the menopausal group only one patient had uterine bleeding for two months; in the ninth year of her menopause (sarcomatous).

* From the Department of Obstetrics and Gynecology, Stanford University School of Medicine, San Francisco.

* Read before the Obstetrics and Gynecology Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

Pain appears very late and only when the tumor mass has grown to a considerable size or has encroached upon other structures in the pelvis. Only one patient in this group had noticed right lower quadrant pain for sixteen or seventeen years (dermoid) without any particular intensification at the time of her entrance into our service. Three patients complained of epigastric pain, due to metastases found in the mesenteric glands and the rectum. Seven had noticed general lower abdominal pain for some weeks. Two were troubled with sacrolumbar backache, and three had no pain whatsoever but came to the clinic because of visible enlargement of the abdomen.

About half of the number of patients were disturbed by urinary frequency, dysuria or retention. Loss of weight was present also in 50 per cent of the cases studied. In eleven patients definite ascites was demonstrated prior to the operation.

All of the patients had easily palpable masses. Cachexia and secondary anemia, corresponding in degree to the size of the mass and the metastatic involvement, was noticed in about 60 per cent of the patients.

TREATMENT—RADICAL REMOVAL WITH POST-OPERATIVE RADIATION

The operative procedure was radical in all cases but three and aimed at a complete removal of all pelvic genital organs.

Postoperative radiation was principally carried out with deep roentgen therapy in the form of massive doses with a complimentary use of vaginally applied radium in three instances.

SUMMARY

In summarizing the above tabulations of patients operated upon in the hospital service of the Stanford women's clinic, we are confronted:

1. With the enormously high and early mortality incident to cancer of the ovary whether primary or secondary in origin.
2. With the absence of early objective symptoms, which delays the bringing of the patient to operation until a period when the condition is nearly always inoperable.
3. With the fact that radical surgery, plus irradiation, prolongs life for as long a period as five years and perhaps materially aids in effecting a cure.
4. That newgrowths of the ovary should be removed as soon as discovered regardless of the age of the patient, since the percentage of malignant degeneration is high (22.8 per cent in our series).
5. That unilateral tumors occurred most often on the right side.
6. It may be stated further that removal of the malignant mass at the primary seat in no instance lead to a disappearance of metastatic growth elsewhere.

2000 Van Ness Avenue.

THE LURE OF MEDICAL HISTORY

TWO SIXTEENTH CENTURY DOCTORS ON SYPHILIS AND GUAIAECUM—FRACASTORO AND FERRI*

By S. L. MILLARD ROSENBERG, Ph.D.
Los Angeles

THIS article may be said to be a series of comments on a dainty little 1547 edition of two famous medical works: Alfonso Ferri's *De Ligni Sancti* and Girolamo Fracastoro's *Syphilis sive Morbus Gallicus*, bound together and excellently printed at Lyon by Johan Frellonius.*

Alfonso Ferri (1515-1595) was a professor of surgery at Naples and Rome, and is especially known for his study of wounds made by firearms, published about the middle of the sixteenth century under the title of *De Sclopetorum sive archibuscorum vulneribus*; he thought such wounds to be poisonous and proposed treatment with boiling oil; he contributed much to the general study of wounds. Moreover, he invented the Alfonsine dilator and was the first to recommend the bougie for dilating the urethra, which he did in a study called *De caruncula sive callo quae cervici vesicae innascitur*, published at Rome in 1552. His treatise on guaiacum (*lignum sanctum*) and its use in the treatment of syphilis, which is the one contained in the little book first mentioned, appeared at Rome in 1537 and its full title is *De Ligni Sancti multiplici medicina & vini exhibitione*.

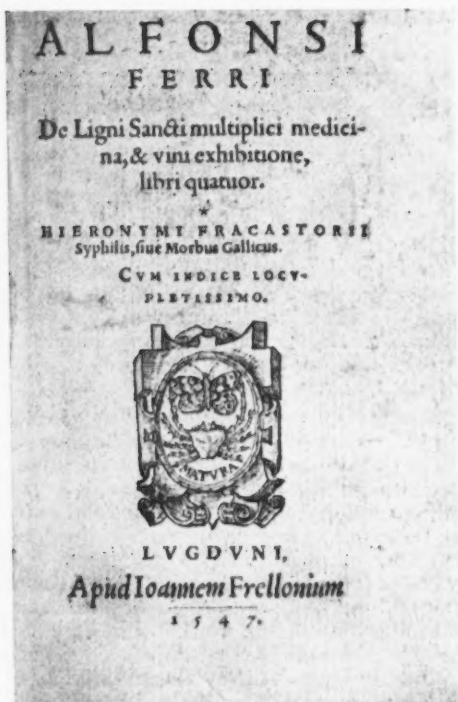
Girolamo Fracastoro, or Fracastoro, also Fracastorius or Fracastor (about 1483-1553) was a Veronese poet, physician, and all-around scientist, whose versified treatise on syphilis, called by Dr. William Osler "the most successful medical poem ever written," is the work printed with Ferri's in the volume above referred to. In the first edition, printed at Verona in 1530, it is entitled *Syphilidis sive de Morbo Gallico*. Before describing it further we may mention the two most important works of Fracastoro: *Homo-centricarum sive de stellis*, Venice 1535; and *De contagione et contagiosis morbis et curatione*, Venice, 1536.

"The scientific reputation of Fracastorius," writes Doctor Osler, "rests upon the work *De contagione*; it contains, among other things, three contributions of the first importance—a clear statement of the problems of contagion and infection, a recognition of

*The volume here commented upon is one of the possessions of the editor of California and Western Medicine, being a gift from Judge A. K. Nippert of Cincinnati, who in turn had received it from Doctor Vollbehr, the well-known collector of incunabula. From the letter of transmittal from the former owner, the following is taken:

"The little booklet in the original pigskin binding came from the pen of Dr. Alfonso Ferri, a famous Italian physician of that period and treats in prose the various phases of these diseases. This part of the book covers 168 closely printed pages, but the last forty pages contain a Latin poem on the same subject-matter. . . .

"The book is complete and is printed in Latin in a press in the city of Lugdunum, now Lyons, France, and has an interesting printer's mark on the title page showing a crab about to envelope a beautiful butterfly. The book is a rather rare product and came to me originally as a gift from Dr. Otto Vollbehr's library of rare books, as you will notice from his dedication on the fly leaf."

Fig. 1.—Title page of Ferri's *De Ligni Sancti*.†

Translation

Alfonso Ferrus [Alfonso Ferri]
On Divers Medicines, the *Lignum Sanctum*
[sacred wood, guaiacum] and the Wine
Treatment: in four books.

Hieronymus Fracastorius [Ghirolamo Fracastoro]:
Syphilis, or the Gallic [French] Malady:
with the fullest possible Index.

[This is followed by a colophon, or device, showing
a butterfly and a crab, beneath which is the
injunction: *Hasten!*]*

LYONS

At Joannes Frellonium

1547

typhus fever, and a remarkable pronouncement on
the contagiousness of phthisis. . . . There are three
fundamentally distinct classes of infections [says Fra-
castorius]: (1) Diseases infecting by contact alone;

† Editor's Note.—The pages here reproduced from this
book have been chosen as rather representative of its
character and contents. The translations are by Profes-
sor S. L. Millard Rosenberg, direct from the Latin origi-
nals, independent of any previous translations which,
if they exist, were not available here. In this connection
it is but fair to Doctor Rosenberg to explain that he is not
a physician, but a professor of Spanish in the University
of California at Los Angeles, and books and articles which
he has published have been chiefly in the field of Spanish
and Latin-American literatures. He has, however, for
long years been an earnest student of medical history
(to which his recent contributions to *The Lure of Medical
History* column bear pleasant testimony), and he comes
of a distinguished family of physicians well and favorably
known in southern Germany.

* Note.—This device shows, at the top, a butterfly (*the
gay life*); in the center a crab (*gnawing disease, cancer,
syphilis, etc.*) and, at the bottom the word *matura* (*hasten*).
That is, *you have been indiscreet and are now in bad shape*;
this book offers relief; hasten to make use of it. What
brevity, all in a nutshell: *Verbum sat sapienti* (*A word to
the wise . . .*).

ALFONSI FERRI

Artium & Medicinæ Doct. de ligni sancti
multiplici medicina, & vini exhibitione,
liber primus.

PREFATIO.

LIGNVM illud, quod vulgò Sanctum, alias
Indicum appellatur, ab insulis offertur in ma-
riori oceano atque nostra reperitur, unde etiam Lignum
morbis ille, qui Gallicus dicitur, ad nos manavit,
antea nostris terris incognitus. In illis autem re-
gionibus ubi morbus natus est, ac præter con-
tagionem per se nascitur frequentissime, cum apud
nos ex sola videatur fieri contagione. In eo morbo
genus illa præsentissimo remedio videntur huius
ligni, omnesque curantur hac unica medicina. Eam
rem nostris, qui illic versantur, animadvertentes,
et ipsi eo remedio uti sunt, quicunque in morbum
Gallicum inciderunt, et inde in patriam reuerter-
tes, afferre ad nos ceperunt lignum ipsum, eoque
medicina oppressis Gallico morbo curare. Quid
vbi bene atque cum salute successit, breui ac facili
id remedium per omnes nostras regiones rece-
ptum est, habitumque pro optimo et præsentissi-
mo in morbi Gallici curatione. Quamam verò in
insulis vide lignum affertur, non in hoc solo morbo
adhibent ipsius ligni medicinam, sed in aliis quàm
vixus ligni
plurimis morbis, ac ferè in vniuersarum gen-
tium exemplo nostri homines edoculi, ad multos ac
triplex.

A 2

Fig. 2.—Preface to Ferri's *De Ligni Sancti*.

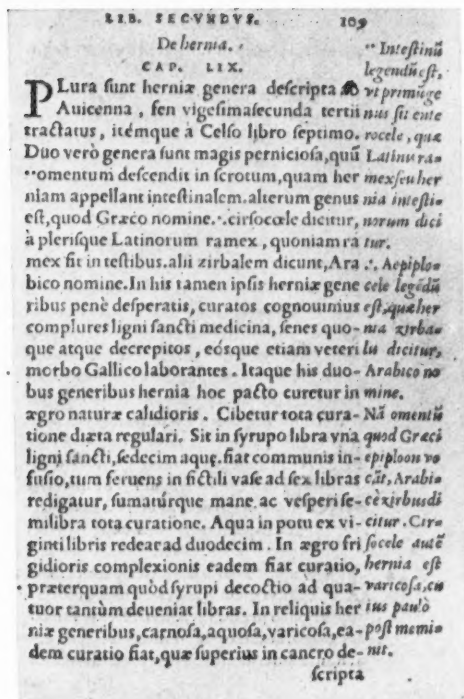
Translation

Alfonso Ferri, Doctor of Arts and Medicine,
on the multiple medicine of *Lignum Sanctum*
[guaiacum], and the demonstration [treat-
ment] of Wine. Book I.

PREFACE

That wood which is commonly called *sacred*, but
also *Indian Wood*, is brought from islands in the
middle of the Great Ocean, discovered in our genera-
tion, from which the disease, called Gallic, hitherto
unknown, has spread to our countries. In those re-
gions the malady is indigenous and most frequently
occurs without contagion, whereas among us it ap-
pears to be contracted only through contagion. For
this disease those peoples employ the ready remedy
of this wood, and all are cured solely by this medic-
ament. Europeans, too, inhabiting those parts, hav-
ing succumbed to the Gallic Malady, have discovered
this fact and have used this remedy, and upon their
return to their native soil have begun to introduce to
us that wood and to heal thereby patients of that dis-
ease. After such treatment had proved entirely suc-
cessful, it was readily adopted as the best and readiest
throughout this continent. Since, however, in the
native islands the wood is applied also for various
other ailments, and practically in all diseases, taught
after the example of those peoples, Europeans, to
many. . . .

(2) those infectious by means of an intermediate
agent—fomites, as garments, etc.; and (3) those which
infect at a distance through the air, as the pestilent
fevers, etc. . . . The contagion through fomites is the
same in reality as in the direct. . . . The whole ques-
tion of fomites he discusses with a clearness new to
medicine; indeed I do not know that the word was
used by any previous writer. More curious and more
astonishing, he thinks, are the contagions of the third
class, which act at a distance, and seem indeed to be
of a different nature and to act on a different princi-
ple. The germs are more powerful and more subtle,

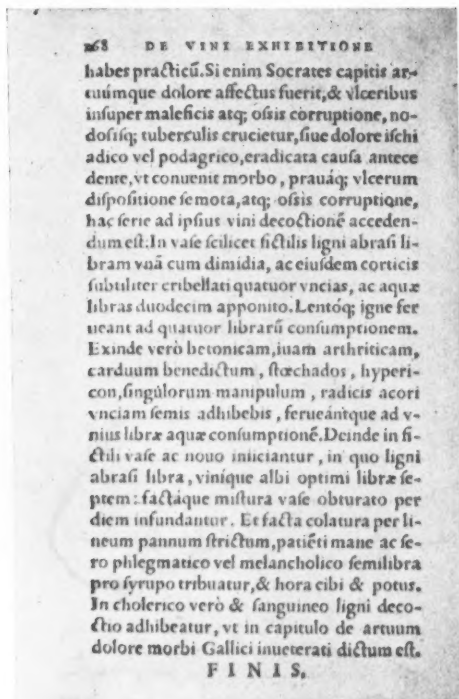
Fig. 3.—Specimen page of Ferri's *De Ligni Sancti*.

Translation

Book II. On Hernia. Chap. LIX.

There are several kinds of *hernia* described by Avicenna (part 22, tract 3), and also by Celsus in his seventh book; two, however, are more dangerous than the rest: one, in which the intestine descends into the scrotum—known as *intestinal hernia*; the other, called *circoscoe* [Varicocele] after the Greek but usually in Latin *ramex*, because a *ramex* [i. e., *rupture* in ancient Latin] is formed in the testes; others call it by the Arabic designation *zirbalis*. Even in these almost hopeless types of hernia we have known of several cures by the medicine of the Sacred Wood [*Lignum Sanctum*], even in the case of aged and broken men, as well as in men afflicted with Syphilis. Follow this treatment of these two types of the disease in the case of patients of a rather fiery temperament: Let them eat according to the prescribed or their regular diet during the entire treatment. Use in the syrup one pound of the *Lignum Sanctum* and sixteen of water. Let the ordinary infusion occur, then reduce by boiling to six pounds in an earthenware vessel. Have the patient take half a pound throughout the period of treatment, both morning and evening. Let the drinking water be reduced from twenty pounds to twelve. In the case of patients of cooler temperament follow the same treatment, except for boiling down the syrup to only four pounds. For other types of hernia, as for example the carnosus, aqueous, varicose, follow the treatment prescribed above for cancer. . . .

with a greater facility in penetrating bodies. They differ extraordinarily among themselves; some attack trees and grains, others animals; some attack men only, others oxen; some the old, others only the young, some males, others females. The different germs attack different organs; some the eyes, others the deeper organs, as the lungs. . . . In the second book the special fevers are considered under two divisions of nonpestilential and pestilential, the former, characterized by a milder course, embracing chiefly

Fig. 4.—Final page from Ferri's *De Vini Exhibitione* [On the Wine Treatment], in connection with his treatise *De Ligni Sancti*.

Translation

For if Socrates should be afflicted with pains in the head and joints, as well as with malignant protuberances and decay of the bones, and be tormented by knotty tumors and with gouty pain: after eradicating the antecedent cause in accordance with the type of disease, and removing the morbid mass of ulcers and the infection of the bone, one must proceed in this order to the distillation of the wine: Put in an earthenware vessel one and one-half pounds of scraped wood, and four ounces of finely graded bark of the same wood, and twelve pounds of water. Let this boil over a slow fire until four pounds have been consumed. Then add a handful of betonica, iva arthritica, carduum benedictum [artichoke?], stoecha [lavandula stoechas?], hypericum, and half an ounce of acorus root, and let all boil until a pound of water has been consumed. Then pour into a new earthenware vessel in which are a pound of the scraped wood and seven pounds of the best white wine; after this mixture has been made, stop up the vessel and let it dissolve throughout the day. Preparing now a plaster of linen drawn tight, give a phlegmatic or melancholic patient a half-pound of this syrup mornings and evenings and at the time of food and drink. In the case of a choleric or sanguineous patient, however, give the decoction of wood as stated in the chapter on pains of the joints in inveterate syphilis.

THE END

smallpox and measles, between which, however, he does not draw a very clear distinction. In 1505 and 1528 there appeared for the first time in Italy a disease characterized by high fever, early loss of consciousness, and a copious petechial and lenticular rash. Fracastorius gives an excellent description of it as a disease quite distinct from the other pestilential fevers, particularly the plague, with which it had been confounded, and we have no difficulty in recognizing it as epidemic or exanthematic typhus. . . . The chapter *de phthisi contagiosa* is of special interest to us as

Ad milites Cupidinis.

Sustulerat quondam Veneris solatia quadam
 Inuisa, tum manus, perniciofa lucis,
 Quam vocat Hispanus Gallia, quæ Gallus Ibera,
 Imperium toto qua tamen orbe tenet.
 Sensit Arabi sensuque Geta extremum; Britannus.
 Hanc scabiem sensit qui tuis furta Venus.
 Non puero parcere se, te facina læsit,
 Fumens, quam minimum lacerare, græde nefas.
 Et inuicem decus nullo prohibente peribat;
 Cumque suo nato est penè relicta Venus.
 Ante oculos cernebat amans sua gaudia, quæ rixæ
 Ausdebat timida folliculare manu.
 Sic sua lucebant miseri solatia amantes,
 Donec quæ morbum, pharmaca terra dedit.
 Et tibi iam presens medicina, Neapolis olim
 Quæ peperit morbum, nunc tibi promittit opem.
 Hoc sacro ligno certa, pugnamque capisse,
 Ereclanque hastam miles in arma tenet.

L 1

Fig. 5.—Poem preceding Fracastoro's Syphilis, sive Morbus Gallicus.

Translation

TO CUPID'S INFANTRY

Once upon a time the solace of Love had been stolen by a pestilence hateful, monstrous, ruinous, that Spaniards call the Gallic and Gaul doth Spanish call, and which yet all over the world holds sway. The Arab, Goth, and farthest Briton, all have felt this itching plague, whoso hath experienced thy stolen pleasures, o Goddess of Love. Sparing of neither boy nor graybeard, thee too, o Woman, it hath wounded, Woman whom to injure the least is enormous infamy. So youthful grace without succor perished, and Venus with her son was nigh deserted: Lover saw before his eyes his Delight that scarce he durst approach with fearful hands. Thus mourned lovers miserable their solaces, till at length she who gave the ailment, Earth, did give the remedy. See, there lies before you present cure, and Naples which once did give birth to the sickness proffers now her aid. With this sacred wood battle thou, take up the fight, erect the spear, thou Warrior, and make for the fray.

one of the earliest and clearest statements on the subject . . . but on the treatment of phthisis he has not progressed beyond Galen or Celsus.

"By far the best chapter in the book is devoted to syphilis, an extended consideration in prose of the subject the poetical consideration of which as a younger man had made him famous." (This poetical consideration is the one this article referred to at the outset.) Doctor Osler continues: "The countless contributions on the subject of syphilis in the fifteenth and sixteenth centuries belong now to the musty volumes of forgotten lore; only two, possessing perennial interest, appear and reappear as witnesses to the vigor and vitality of the minds which produced them. Both were written by poets, but the better poet wrote in prose, and, while not a physician, gave one of the most realistic pictures of the disease which exists in literature." (Here Doctor Osler speaks of

Hieronymi Fracastorii Syphilis, sive morbus Gallicus,

AD PETRUM BEMBO.



Vi casus rerum vari, qua semina
 morbum
 Insuetum, nec longa vix per seculi
 Latissum

per omnem

Europam, partemque Asia, Libye; per urbes
 Sequitur Latium verò per tristia bella
 Gallorum irrupit, nomenque à gente recepit:
 Necnon & quæ cura, & opus quid comperit usui,
 Magnaque in angustiis hominum solertia rebus,
 Et monstrata deum auxilia, & data munera cæli,
 Hinc canere, & longè secretas querere causas
 Aëra per liquidum, & vasti per sidera Olympi
 Lucipiam, dulci quando montatis amore
 Corruptum placidi naturæ suscipiunt horti
 Floribus inuolant, & amantes mira Camana.
 Bembe decus clarum Ausonia, si foris vacare
 Consiliis Leo te à magnis pulserit, & alta
 Rerum mole situi potum, quæ sustinet orbem:
 Et inuas ad dulces paulum succedere Musas:
 Ne nostris contemne orsus, modicumque laborem,
 Quicquid id est, deus hac quodâ dignus Apollo est:
 Et parui quoque rebus inest sua sæpe voluptas.
 Senectus hac tenui rerum sub imagine multum
 Natura,

Fig. 6.—First page of Fracastoro's Syphilis, sive Morbus Gallicus.

Translation

Hieronymus Fracastorius: Syphilis, or the Gallic Malady.

ADDRESSED TO PIETRO BEMBO.

What various chances, what seeds, have brought the unaccustomed disease unknown to all throughout long centuries, that in our day over all Europe and parts of Asia and the cities of Africa doth rage, and hath broken into Latium in the unhappy wars of the Gauls [French] and taken its name from their race; yea, and also the care and alleviation use has taught, and the craft of men in straits displayed, with the manifest aid of gods, the gifts vouchsafed of heaven, I now to sing and into the deep-hidden causes inquire through the liquid air, and the constellations of wide Olympus shall begin, since taken with sweet love of its novelty, we the placid gardens of nature summon with sweet flowers, yea and the Muses, too, who love the wonderful.

O Bembo,* bright glory of Ausonia [Italy], if Leo* for a short space grant thee from high consultations and the lofty weight of affairs to rest, wherein he doth support the world entire; and if thou wilt a while retire to the sweet company of the Muses: do not despise my essays and modest labor: however slight it be, once the God Apollo thereto did condescend, and little things too have often their own proper pleasure in themselves. Beneath this slender form is much of Nature found. . . .

Ulrich von Hutten's famous treatise on the then (1514) new drug Guaiacum (*lignum sanctum*) and its use in syphilis.) "The other contribution is the celebrated poem of Fracastorius. Next to the famous *Regimen Sanitatis* of the School of Salerno, it ranks as the most popular poem in medical literature. . . .

* The reference is to Cardinal Pietro Bembo, one of the most celebrated Italian scholars of the sixteenth century, and secretary to Pope Leo X. It is known that the Cardinal was one of Fracastoro's intimate friends.

Apart altogether from the poetical interest, which after all is subsidiary, the work is of the greatest value as a contemporary picture of the disease, embodying the opinions of an intelligent observer upon its origin. In one other point it is notable. The word "syphilis,"* invented by Fracastor for the disease, occurs in the poem as the name of one of the characters, a shepherd. . . . It had been known by many names—*morbus gallicus*, *mal Français*, French pox, the Neapolitan disease, *morbus venereus*, etc.; but from this time the new name became common and gradually came into general use." (*Proceedings of the Charaka Club*, Vol. II.)

It is tempting to go on quoting Doctor Osler, but space demands omission of his résumé of the poem: its author's theory of the origin of syphilis in the malign influence of the conjunction of Mars and Saturn; the complete and accurate description of the symptoms; the treatment, diet; the virtue of mercury, but most of all the virtue of the "sacred tree" the *lignum sanctum*, the description of guaiacum, its preparation and administration—a fascinating mixture of astrology, mythology, and truly scientific observation.

Referring to Fracastor's theory of the origin of syphilis, it may be interesting in that connection to recall the following:

When King Charles VIII of France invaded Italy in 1493 he found no resistance, but he had to fight his way out. His entry has been called "the war of fornication" because of the chiefly nonmilitary activities of his army, the only ones that make his Italian expedition of great interest today. For it was a rapidly dwindling army that finally escaped over the Alps, leaving its baggage but carrying away the frightful impedimenta of syphilis and other diseases of its loose living.

The contemporary Spanish geographer Enciso wrote: "Never did so many die at one time as then. And as they died covered with abscesses and disfigured by stinking gangrene, and all social classes being affected, the great mortality of notable and powerful persons was specially observed and the nature of their death, with their noses and throats gnawed away by horrible sores. Naturally an explanation was sought for such an astounding mortality among the rich and lordly, and it came to be the settled conviction that they had been poisoned, for political and other reasons. Everybody thought the sores were due to the excess of poison escaping through the skin. Many deaths attributed to the Borgias on this account were really due to syphilis, which naturally fed by preference on the upper classes."

By a curious coincidence, in that very year of 1493 Columbus returned from his first voyage to the New World. This is noted by the Spanish novelist Blasco Ibáñez in his novel *At the Feet of Venus*, where he says: "The strange thing [about the violent outbreak of syphilis in King Charles's army] was that at the very time when the sexual epidemic was spreading throughout Europe, the Spanish discoverers found the disease in America, and they gave it the name of 'mal de bubas' or bubonic disease. The coincidence for a long time caused the poor aborigines

of the New World to be charged with giving to the Old World the horrible gift of syphilis. As to the truth or falsity of this charge there is a difference of opinion, and the matter is not yet settled. Neither is it settled whether, as between France and Italy, the disease first appeared in the one or the other. The Italians call it the 'French disease' or the 'Gallic disease,' while the French call it the 'Neapolitan disease.'"

Blasco Ibáñez here assumes, as many do, that the Spanish discoverers "found the disease in America"; but this has been disputed and the opposite affirmed: that the Spaniards took it with them from Europe, where, it is said, it had long existed under the name of leprosy, with which it was confused.

Besides the charming essay by Doctor Osler, there are at hand two others I may mention. One is an illustrated article by Dr. Arnold C. Klebs in the *Bulletin of the Johns Hopkins Hospital* for November 1915, entitled "Iconographic Notes on Girolamo Fracastoro"; and the other in the *Annals of Medical History*, Vol. I, No. 1, is by Charles and Dorothea Singer* of Oxford on "The Scientific Position of Girolamo Fracastoro, with special reference to the source, character, and influence of his theory of infection." This very full and scholarly study, with its careful substantiation in footnotes and bibliography, is worthy of reading not only for the history of syphilis, the history of the theory of infection in general, and the large part played in it by Fracastoro, but also for the brief prefatory sketch of his contributions to other sciences than that of medicine; for Fracastoro was a fellow student of Copernicus in astronomy and probably the first man to espouse his heliocentric theory; it is probable that the first orrery was made for him rather than for the English earl; he was the first to apply the word "pole" to the earth; he was the first to suggest, in 1549, the cartographic projection that came to be called Mercator's; he was the first to introduce to Europeans the statement of the thirteenth century Arab, Kazrini, that western Europe was subject to secular changes of elevation, an idea which, elaborated by Niels Stensen in 1669, laid the foundation of modern geology. Fracastoro was one of the few of his day who had any conception of the nature of the refraction of light and his views were hardly improved upon until the researches of Maurolico, about 1575; Fracastor was probably the first to suggest the combination of lenses as an aid to vision, and thus gave the first hint in literature of the construction of a telescope: just as "the moon appears larger and nearer for the same reason that objects do in a depth of water, in the same way glasses may be made of such density that if anyone looks through them at the moon or at any star they appear near and hardly higher than the steeples." The treatment of refraction by this versatile man is accompanied by numerous geometrical drawings and demonstrations.

* The word "syphilis" in Greek appears to imply love of swine

* Doctor Singer will be remembered for his 1930 lectures at the University of California Medical School.

And finally I wish to call attention to an article on *Fracastoro and Syphilis* by Dr. W. K. Stratman-Thomas of New York in *CALIFORNIA AND WESTERN MEDICINE* for October 1930 (page 739), who states with particular clearness the position of Fracastoro as to the probable origin of the disease and, in general, gives a summary of the articles I have already mentioned, together with reproductions of two portraits of the great doctor and a facsimile of the first page of the famous poem.

This paper of mine has been almost exclusively about Fracastoro, and very little about the author of the first work contained in the precious little volume discussed in the present article—Alfonso Ferri; but the fact is that thus far I have learned very little about him; perhaps later I may be able to supplement the present review with a sketch of this artium and medicinae doctor.

4508 Willowbrook Avenue.

NEVADA—A BRIEF MEDICAL HISTORY AND SURVEY*

By EDWARD E. HAMER, M. D.
Carson City, Nevada

NEVADA as a territory had no law governing the practice of medicine. It was not until January 28, 1875, that any kind of a law governed that profession. The law passed by the legislature of that year was a very incomplete one regulating the practice of medicine and surgery.

FIRST LICENSURE LAW OF NEVADA

This first law, passed in 1875, demanded only that a person to practice medicine in Nevada must have received a diploma from some regularly chartered medical school, said school to have a bona fide existence when the diploma was granted. Each physician entering Nevada, or who at that time resided in Nevada, had to file for record with the county recorder in the county in which he practiced a copy of his diploma and, at the same time, exhibit the original. This first law did have a penalty, however, for practicing in violation of the foregoing procedure. Section 4 of the law provided: "Any person practicing medicine or surgery in Nevada without complying with Sections 1, 2, and 3 shall be guilty of a misdemeanor and shall be punished by a fine of not less than \$50 nor more than \$500, or by imprisonment in the county jail for a period of not less than thirty days nor more than six months." The duty of arresting anyone not complying with the Act was given to the police, sheriff, or constable, and the one making the arrest was entitled to one-half of the fine collected.

REVISED MEDICAL PRACTICE ACT OF 1899

On March 15, 1899, a new law was passed creating the Board of Medical Examiners, consisting of five members, who were physicians who had been duly licensed as such from some legally

chartered medical college of the United States and who had been in active practice in Nevada for the preceding five years. Three of the board were to be appointed from the school of medicine known as the regular school, one from the homeopathic school, and one from the eclectic. The members appointed by R. S. Sadler, Governor of Nevada, were J. Guinan of Carson City, S. L. Lee of Carson City, P. T. Phillips of Reno (now of Santa Cruz, California, and an ex-president of the California Medical Association), George Fee of Reno, and Philippine Wagner of Carson City.

The first meeting of this Board of Examiners was held on the first of May, 1899, at Carson City, Nevada. The meeting was called to order, with the Governor in the chair, and Dr. S. L. Lee was elected temporary chairman. They then proceeded to elect a permanent chairman or president of the Board of Medical Examiners and Dr. P. T. Phillips† received the honor of being the first president of the Nevada State Board of Medical Examiners, with Dr. S. L. Lee as secretary.

The law under which they worked at this time, or the law passed March 15, 1899, among other things provided that a temporary license to practice medicine in Nevada could be issued. This practice, however, was discontinued in 1905.

Since the creation of a Board of Medical Examiners in Nevada, 1305 licenses have been issued by this board. A member of the Washoe County Medical Society held and still holds License No. 1 of the State Board of Medical Examiners of Nevada. The colleague holding that license is Dr. W. H. Hood, a graduate of the medical department of the University of Michigan. His certificate was issued to him while he was practicing at Battle Mountain on May 29, 1899.

The laws governing the practice of medicine in Nevada have been, no doubt, as good as they could be, due to the fact that throughout most of the area of the state the population was very scarce. One of the features of the law, until the last session of the legislature, was that the Board of Medical Examiners of the State had to accept credentials from any legally recognized medical college. A bill was introduced into the last legislature which changed the wording to "He must be a graduate from a medical college accepted as reputable by the Board of Medical Examiners." At a meeting of the present Board of Medical Examiners it was decided that no Class C colleges be recognized by this board. That has eliminated from Nevada graduates from six existing medical colleges, all of them Class C colleges and most of them recognized as so-called diploma mills. We hope to bring about higher standards among our profession. It is worthy of note that during this past year Nevada has refused admittance, either by examination or by reciprocity, to at least twenty-four applicants who are graduates of these schools.

† Editor's Note.—Dr. P. T. Phillips, now practicing in Santa Cruz, California, at the time of this writing and for a number of years, has been president of the Board of Medical Examiners of the State of California.

* Read before the Washoe County Medical Society, December 9, 1930.

ILLEGAL PRACTICE IN NEVADA

There is yet a great deal to be done to improve the standards in Nevada. First, the charlatan and quack should be eliminated. We find them even in our fair city of Reno, our metropolis, plying their trade and extracting from the public probably from seventy-five to one hundred thousand dollars annually that should be going to legitimate practitioners. It should not be much trouble to eliminate this element from the territory of this county society. It seems to me that evidence of practicing medicine without a license could be obtained, and I believe it is the duty of every member of the Washoe County Medical Society to try to get that evidence and lay it before the Board of Medical Examiners of Nevada so that we can proceed to have arrested and bring about the prosecution of the offenders. If you will recall, at the last session of the legislature a bill was passed and put into practice which provided for the collection from every man holding a license in Nevada, and who cares to be in good standing in our profession, the sum of two dollars annually. Some of the members of this society, I find, have never understood why this law was put into effect. The principal idea of our annual tax is for the accumulation of a fund whereby we can clean up our profession and eradicate illegal practitioners. We have revoked the license of one and have driven others out of Reno, and the Board of Medical Examiners of Nevada stands ready to spend every dollar of that accumulated fund to protect the people against quackery where it is being practiced. There is no doubt that there are other misdemeanors going on in the practice of medicine, especially in this city. I have heard it said that certain individuals live in boarding houses in this city for a period of three to six months who may be well versed in the art of medicine but who do not care to spend \$100 for a reciprocity certificate. Gossip says that these men at times practice their profession in a manner which might well be termed "curbstone practice." They are careful not to write prescriptions and sign them with their names, but they will procure from the druggist certain medicines and dispense them to their patients, and no doubt collect not only for the medicine, but for their services.

PROPORTION OF PHYSICIANS IN NEVADA

Nevada, as a whole, considering its population, is very well taken care of professionally. There are at the present time 140 physicians practicing in Nevada. The population of the state is 91,058, so that means one physician to every 651 persons. This corresponds very closely to the profession in other states. Washoe County has a population of 27,158, with about forty-six physicians, giving them approximately one physician to every 600 persons. These figures, perhaps, are not accurate, because the population includes the Indians, and they are taken care of to a great extent by government agencies. Elko County is large in area with a population of about ten thousand, with physicians at Wells, Montello, Jarbidge,

and Carlin. The rest of the county is taken care of by the physicians of Elko. White Pine County is very well cared for because most of the inhabitants are employed by the Nevada Consolidated Copper Company, who have a modern company hospital which provides adequate treatment. Physicians are also located at McGill, Kimberly, Ruth, and East Ely. Lincoln County has its physicians at Pioche and Caliente. Nye County does very well with its Miners' Hospital, which is operated by Doctor Craig. There is also a fairly good county hospital at that point, and I believe the county is well taken care of from the standpoint of the number of physicians. Lyon County is well taken care of by its physicians at Yerington and Smith. Clark County must be very much overrun by the profession. The Board of Medical Examiners of Nevada has issued a number of licenses to physicians who went to Las Vegas to practice their profession, believing that there would be an increase in the population because of the government work at Boulder Dam. The medical work there, I believe, is to be let on contract by the government, and there will be need for more physicians when that work is gotten under way, as they expect to employ three to five thousand men on construction work. Humboldt County has four physicians at Winnemucca and one located in the northern part of the county at McDermitt. In Pershing County we have Doctors West, Gill, and Smith in Lovelock, with Doctor Webster in Paradise Valley. Eureka County has one physician, Doctor Hurley at Eureka. That is quite a territory for one doctor to cover, and there is no doubt that the location of a doctor at Palisade would not only be pleasing to the people of that community, but it would be profitable to the physician locating there. Lander County has a doctor at the county seat at Austin and another at Battle Mountain. In Mineral County, we find Doctor Smith at Mina. Churchill County covers quite an area, and there is no physician between Fallon and Austin. This is a considerable distance and sparsely populated. Douglas County is taken care of by Doctor Morley at Gardnerville and Doctor Harrison at Minden.

NEED OF A COMMUNITY HOSPITAL FACILITIES
AT RENO

I believe we have in the Washoe County Medical Society able representatives of the medical profession. I believe that Reno is handicapped to a great extent by the hospital facilities offered. It seems to me that the majority of patients whom you and I treat are not financially able to stand the expense imposed on them by the average hospital. These patients can pay a certain sum without embarrassing themselves and families for hospital care. This class of patients do not feel like becoming charges of the county hospital as charity patients, neither do they feel that they can afford to pay the cost of care as charged by the privately owned hospitals. Therefore, I believe that this medical society will greatly bene-

fit when the present plans for a community hospital are developed. Such a hospital could have rooms and bed spaces of different prices and the patients could have the care of their own physicians, and they would not feel as paupers. I am sure that the members of this society would be more likely to receive their compensation for services if such a hospital were established which did not take all the money that the patients had for care. In the past two years I have sent, or taken, some patients to San Francisco against my wishes, but it was the desire of the patients to go there, claiming that it was cheaper to go to San Francisco than it was to go to our local hospitals. This only shows that it is important that a hospital be established whereby cheaper rates of service can be offered certain classes of patients.

NEED OF A FULL-TIME HEALTH OFFICER

I believe there will be established in Washoe County what is known as a full-time county health unit. This unit will consist of a full-time health officer assisted by two public health nurses. The establishment of this unit could no doubt be brought about, due to the fact that one-half of the money paying for this service in this county would be borne by outside agencies.

PLACE OF THE UNIVERSITY OF NEVADA

I do not believe that prevention of communicable diseases has been exercised to the extent that it should have been during the past, and by having a county health unit to take care of quarantine it will relieve the local men of that embarrassment, besides giving a more thorough check on the sanitary conditions of the county. Another thing that appeals to me as being very important is the placing of the Hygienic Laboratory as well as the Laboratory for Pure Food and Drugs, under the direction of the department of health instead of the university. All states in the United States maintain a Public Health Diagnostic Laboratory with the exception of one. In eight of the states it is maintained within the university. When the laboratory is placed directly under the control of the state health department, experience has shown that it is followed by an immediate increase in the volume of work accomplished, due, no doubt, to the state health department's more intimate contact with the physicians throughout the state. Some of the work which is being charged for as the laboratory is now operating could be given the physicians free. In addition to that, I believe that the laboratory should be able to manufacture vaccines, toxin, antitoxin, and similar products for free distribution to the local health officers. The fact that during the year 1929 only 81 suspected diphtheria cultures and 250 smears for tuberculosis were examined, out of a population of nearly 91,000, clearly demonstrates that the 140 practicing physicians in the state are not benefited by the state's public health laboratory to the extent that they should be. Hence, it is recommended that much greater effort be made to convince them of its importance.

The laboratory is maintained as a department of the university in Reno. Its location is advantageous, inasmuch as it is nearer the state's population center than it would be if located elsewhere. However, for reasons mentioned, I believe it should be transferred to the state health department and that the appropriation for its maintenance be made to that department. If such is brought about, and the university president as well as the heads of the laboratory are willing that it should be brought about, I will be able to secure, through the state health department, from the Rockefeller Foundation a sum of money equal to at least one-half of the appropriation, which is about \$5000 each year. With these funds more technicians and more equipment could be employed. I would appreciate it if the Washoe County Medical Society would indorse the transfer of these two laboratories to the department of health of the State of Nevada where they rightfully belong. President Clark told me that if it were desired, and if we could run the laboratory as well as it is now being operated, that he would not only consent to the change but would recommend that it be placed under the state department of health.

NEVADA MORTALITY STATISTICS

It will be of some interest to you to know that in the year 1929 the deaths in the State of Nevada per 1000 population were reduced to 13.3 from 16.6 in 1928. These statistics for the year 1930 are not yet available.

In closing this paper I will attempt to give you a few statistics on deaths in Nevada up to December 31, 1929. In pulmonary tuberculosis we find the state had fifty-four deaths—thirty-five of that number were of the white race, fourteen of the red race, four of the yellow, and one black. This is quite unusual, for in former years the deaths were more than 50 per cent of the red race. In cancers, those of the stomach and liver led the list; thirty-three of these patients died, all white except one. There were four cancers of the mouth, eight of the intestines, four of the female genital organs, and seven breast cancers. No statistics on deaths would be complete in the present age without deaths from alcoholism, so we find fourteen died from that disease and ten from cirrhosis of the liver. There were sixty-two deaths from cerebral apoplexy, one hundred and seventy-five from diseases of the heart, and one hundred sixteen deaths from pneumonia.

You gentlemen who practice surgery will be interested to know that Nevada lost nineteen cases from appendicitis, eight of them being in Washoe County. There were forty-one deaths from nephritis and twenty-four deaths from premature births. Among the suicides, which numbered twenty-eight, fifteen were caused from fire-arms, four from strangulation or hanging. There were seventeen fatal mine accidents, thirty-seven fatal automobile accidents, and fifteen homicides.

Carson City.

CLINICAL NOTES AND CASE REPORTS

CARCINOMA OF THE LARYNX—ITS TREATMENT BY DIATHERMY

By HARRINGTON B. GRAHAM, M. D.
San Francisco

HAVING made a diagnosis of carcinoma of the larynx, there immediately present themselves to the surgeon two problems which must be met at once:

1. Is the case operable, and by what method?
2. If inoperable, how best can one ease the patient's last days?

Diathermy has been used in the larynx for a great many years and has become progressively a method of choice in early cancer. My attention was called to its value mainly through a success in its use in a nonlaryngeal malignant growth, one involving the left tonsil with loss of the uvula and a part of the soft palate. Diathermy and radium were applied here some fifteen years ago with entire success, the patient being alive at the present time.

Succeeding this I used diathermy in a case of cancer of the vocal cord in a lawyer, after removing as much of the growth as possible by a double curette. This was all done by the direct method, per oram, under general anesthesia. At the time the whole vocal cord appeared to have been removed. Three months after the operation the patient appeared in the office with a normal voice and vocal cord and stated that he was carrying on his work in court with perfect ease. He died two years later of pneumonia, but up to the time of his death there had been no recurrence.

It is quite possible to apply the diathermy to any part of the larynx by the indirect method under local anesthesia, in this way producing a coagulation which is sufficient to destroy any small carcinoma in the early stages without destroying the function of the larynx or taking the chance of distribution of cancer cells by laryngofissure, as Mackenzie advocated at the Copenhagen Congress. In case the infiltration is more extensive, involving the cartilaginous wall, I doubt if fulguration is sufficient. Here a laryngofissure would not help, laryngectomy alone being indicated.

It seems to me, therefore, that diathermy is the method of choice in all cases of early cancer of the larynx when close inspection is not necessary. There is no objection to applying the diathermy under general anesthetic, even under ether, if the precaution is taken to allow the patient to take several breaths before turning on the current so as not to cause an explosion of the ether. In case a bronchoscope is used, the needle should be well covered with rubber to the tip, only a small portion being exposed and the needle being introduced well beyond the end of the scope.

In inoperable cases, with the growth practically occluding the passage, I have found diathermy of especial value. In these cases an extensive coagulation may be carried on with deep penetra-

tion of the needle into the tissues under local anesthesia and morphin. The amount of destruction that takes place frees the larynx of the obstruction, gives the patient air without a tracheotomy and eventually may produce a scar tissue which relieves the situation for years. There may be pain subsequent to the operation which may be controlled for a few days by morphin, but some of the patients do not complain at all.

This, in my hands, has been a much more humane method than an attempted laryngectomy with all its attendant unpleasant sequelae, and the lack of a tracheotomy tube is much appreciated by the patients. It is a simple matter to do this work; a repetition is just as simple and the patient may be carried over a terrible period in his life when breathing is generally extremely difficult and communication just as annoying. It is astonishing how much room may be obtained in a couple of days when only one side of the larynx is treated in this way, decreasing the pain and limiting the difficulty in swallowing.

490 Post Street.

ASyringe for IntraVaginal Treatment

By CLAIR WILSON, M. D.
Los Angeles

BELIEVING that any instrument materially assisting in the treatment of infections of the female vaginal tract is worthy of being brought to the attention of the profession, the following syringe is presented:

It is moulded black bakelite, 19.5 centimeters long when loaded, 15.5 centimeters long after injection, and is generally 2 centimeters in diameter. There are four parts: an upper and lower hollow part, forming the barrel; an upper and lower solid part, forming the plunger. The lower part of the barrel or chamber has a capacity of 6 cubic centimeters, which amount seems sufficient in any case, but less may be used if desired. The chamber is perforated at the remote end by five small openings, one of which is in the exact center of the tip; the other four are arranged radially around the central perforation, one centimeter from it and about equidistant from each other, drilled at an angle of forty-five degrees. The upper part of the plunger serves as a handle for the lower part or piston, which, when compressed, expresses the material from the chamber. The parts are screw-threaded, making assembly quick and easy.

The syringe when assembled, or when the chamber is removed for filling, is so constructed that it is impossible for the plunger to fall out from either end; also, when the filled chamber is attached, the face of the piston is in direct contact with the medicament. This eliminates all air space and the possibility of air injection.

To load syringe remove the lower part of the barrel, fill this chamber from a collapsible tube of the preparation indicated, then reattach. When this is done the instrument becomes almost self-lubricating, as sufficient material exudes through the perforations to insure easy passage into the vagina. More may be expressed, if desired, by gentle pressure.



Syringe for intravaginal treatment.

Treatment may be administered under direct vision through a vaginal speculum, or by simply introducing the syringe until the tip is in contact with the cervix. Pressure by one finger on the concave proximal end of the plunger is sufficient to completely express the contents of the chamber against the parts being treated.

The appliance is easily cleaned with soap and water, and may be sterilized by any method except the prolonged application of heat. It is a simple device, foolproof, positive in action, and with ordinary care will last for years.

MEDICAMENTS

The drugs used topically in the present-day practice of gynecology and venereology are all more or less efficient. Most any of them may be incorporated in a gelatinous base, and their value seems to be enhanced by so doing. This is due to the fact that the medicament remains in intimate contact with the tissues until removed, which is a much longer time than is possible with aqueous solutions, and in a better physical state than oily or greasy substances. Being water soluble, it is compatible with vaginal and cervical secretions, and is readily removed when desired.

Of the many preparations tried, two were meritorious enough to warrant devising the instrument described for their proper application. They have continued to prove of sufficient value to justify calling them to the attention of those interested in this field.

For gonorrhea, and cases of leukorrhea having a high count of pyogenic organisms, the preparation of greatest value is neutral acriflavine. A strength of 1 to 1000 in a modified mucilage of tragacanth base (gum tragacanth, 15 grams; glycerine, 85 cubic centimeters; distilled water to make 1000 cubic centimeters, slightly alkalized by the addition of one-half per cent sodium benzoate which also serves as a preservative). This jelly is put up in 90 cubic centimeter collapsible tubes for ease in filling syringe.

The central perforation in the syringe usually ejects sufficient jelly to treat the cervical canal. If necessary it may be readily filled by means of a metallic tip screwed directly to the tube, or an ointment depositor having a cervical tip. The urethra, if infected, may be injected with this formula and allowed to remain until urination.

For simple leukorrhea and excessive secretion the preparation of choice is three per cent tannic acid in the same base. Treatment is completed by application of a tampon or vulva pad. It may well be left in all night and removed the following morning by a copious warm douche.

The syringe, with these or other preferred formulae, may also be used with pleasing results in the treatment of infected cervical lacerations, cervicitis, erosions, ulcerations, and vaginitis. It offers an excellent method for applying a simple

lubricating jelly in cases lacking sufficient lubricating secretion, in vaginismus and dyspareunia, and where there is disparity in the relative size of the sexual organs.

The treatment is quick and efficacious in office practice. Being simple and foolproof, it is ideally adapted for sustained treatment by the patient at home between office visits.

746 Francisco Street.

A NEW ORTHODIAGRAPH

By L. M. ROSE, M. D.
Santa Clara

THE object in reporting this new method in outlining the shadow of the heart and vessels during fluoroscopic examination is because of the simplicity in construction of the apparatus, economy, exactness of shadow, rapidity in getting a permanent record of the heart and vessels, and easy attachment and detachment of the apparatus to any fluoroscopic table.

Orthodiagraphy is not new; there are several methods available to outline the cardiac shadow fluoroscopically. The apparatus may be expensive and only applicable to a certain table.

Pin-hole opening of diaphragm may be used with a fixed screen. The disadvantages of this method lie in the impossibility of seeing the whole cardiac shadow during the time of tracing the borders of the heart and vessels, and of moving the screen to examine other parts of the body. A small piece of lead may be attached to center of the tube and follow borders of cardiac shadow,

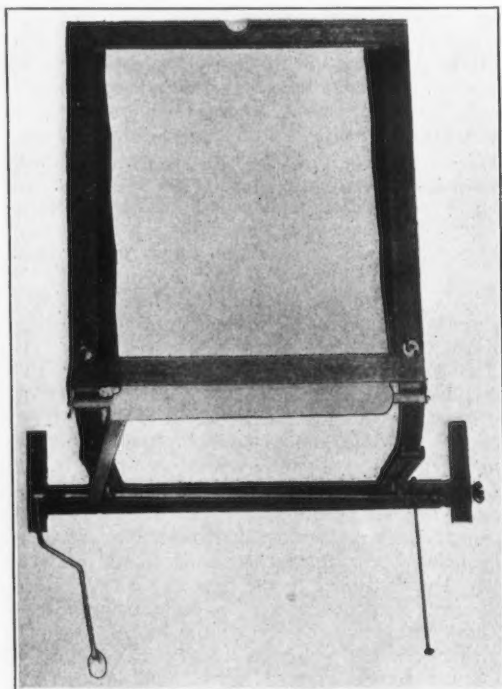


Fig. 1.—Frame carrying roll of paper on which cardiogram is recorded.

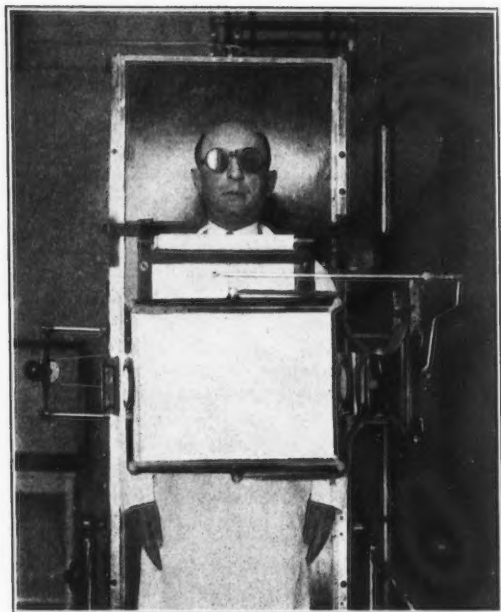


Fig. 2.—Apparatus and patient in direct anterior position.

but one still has to use a fixed screen and mark the shadow upon the screen or directly on the patient's chest (which is a curved surface).

The apparatus here described (Fig. 1) shows a frame supporting a roll of paper which can be made to fit any table. The frame when attached to the table is made to slide in a vertical and a horizontal position to accommodate the patient's posture during examination. The arm and pencil holder can be attached to any tube carriage; pencil is fixed in line with central rays of tube. The frame is placed between the patient and the fluoroscopic screen; the pencil between the frame and the fluoroscopic screen. During fluoroscopic examination the frame and roll of paper is fixed; the pencil moves with the fluoroscopic screen. By pressing a spring lever of the pencil arm, the shadow of the heart and vessels is outlined with pencil dots on the paper which is fixed on the frame in front of the patient.

The apparatus can be made by any good mechanic to fit almost any fluoroscopic unit.

Rose Building.

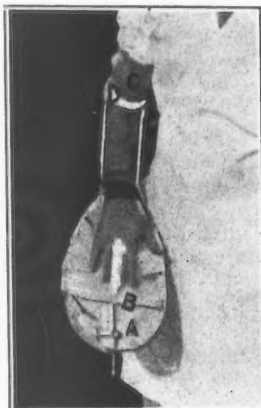
A NEW SPLINT FOR FINGER TRACTION

By A. J. LANGAN, M. D.
San Pedro

THE splint discussed below was devised for the purpose of traction in fractures of the bones of the hand. It has been my experience in fractures of the hand that the best results are obtainable from splints where steady traction is maintained. More difficulty is encountered in compound fractures or in fractures when several fingers are broken. After the even balance of muscle "pull" has been disturbed by the fracture, the tendency to displacement is very great, which

can readily be understood when the size of the muscles involved is taken into consideration.

For several years I have used the banjo splint with fixation to the forearm and traction produced by adhesive (mole skin) around the affected fingers and with attachment to the outer rim of the banjo splint by rubber bands or rubber obtained from the tubes of automobile tires. It has been my experience with such a splint that daily attention to the traction and, in most instances, frequent changes of the traction are necessary. Shifting of the traction took place because of the forearm end of the splint slipping down.



To obviate this error I have devised the splint pictured below. As shown, the center of fixed traction is from the arm and no slipping of the splint forward toward the hand is possible after the splint is properly placed.

The splint is made of light aluminum metal, nondeflecting to x-ray. There is a joint at the elbow which can be locked, so as to hold the elbow at right angles' flexion or it may be left movable for free use of the elbow. The lower half of banjo circle is movable, so that the angle of traction may be changed at will. There are a



Fig. 2.—(e) Adjustable connection, allowing lengthening of banjo portion of splint. (f) Leather wrist band fixing splint at wrist.

series of set screws attached to the outer rim of the splint which tighten the traction by simply turning the screw, as is done with a violin string. I have found the splint especially adaptable to compound fractures where frequent changes of dressing are needed. If the finger is too badly torn to allow for adhesive traction, the traction may be made through a hole in the finger nail. The splint is especially adaptable where several fingers are fractured.

A hammock of muslin or gauze is swung under the hand and forearm.

Bank of Italy Building.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

THE USE OF RADIOTHERAPY IN ACUTE PYOGENIC INFECTIONS

JOHN D. LAWSON, M. D. (Woodland Clinic, Woodland).—The treatment of acute pyogenic infections through the use of radiotherapy is not new, but recently has received considerable attention with the result that it has come into more general usage.

The more common acute infections in which roentgen therapy has been utilized with success are erysipelas, furunculosis, carbuncles, cellulitis, lymphadenitis, lymphangitis, parotitis, and acute pelvic inflammatory disease. In all of these conditions we find a rather remarkable response to the use of this physical agent, provided the disease has not progressed to suppuration.

If necrosis has already occurred and the lesion has become entirely localized, it has not been our experience that any favorable results are obtained. If, however, extension is continuing about a necrotic area the effect of radiotherapy is quite satisfactory as it will inhibit further progression.

In the treatment of acute pyogenic infections by means of roentgen rays the point of first importance is the selection of cases. This mode of therapy will certainly come into disrepute if attempts are made to produce results in instances where necrosis and suppuration have already occurred.

The response to irradiation in all of the disorders noted above is prompt and satisfactory. It is true that certain lesions respond more rapidly and more readily, as would be expected by reason of the involved tissue. In cases of adenitis where recovery is quite remarkable and regression of the glands very rapid, this would be expected by reason of the type of structure in which the infection is located, as one would normally expect more rapid regression than where the skin is involved as in erysipelas. However, taking the group as a whole, it may be said that radiotherapy is the treatment of choice and that the results obtained by this method are not approached by any other type of treatment.

In administering radiotherapy it has been our efforts to apply a dosage of approximately one-third of an erythema dose. By this is meant that the lesion itself receives that amount of radiation. If the infection is located a considerable distance below the surface, as is the case in pelvic inflammatory disease, heavy filtration and high kilovoltage will be necessary. If the lesion is located on the skin, little or no filtration and much lower kilovoltage may be utilized. It is very essential that a zone about five centimeters wide be obtained beyond the farthest extension noted

and included in the irradiated area. If radiation is limited to the lesion itself a high percentage of patients will have further extension, whereas if the application includes the larger area this will not occur.

It has not been our practice to reirradiate within forty-eight hours, but if the lesion has progressed and there is still no evidence of necrosis at the end of that time the same dosage is repeated.

As stated before, the results obtained in this field are such as would convince the most skeptical, and it has been routine at the Woodland Clinic for several years to refer all acute non-suppurative pyogenic infections to the radiotherapy department for treatment.

* * *

MOSES SCHOLTZ, M. D. (1930 Wilshire Boulevard, Los Angeles).—The term "radiotherapy" colloquially implies x-rays and radium, and strictly speaking it should also comprise the superficial actinic modality of the ultra-violet ray. Pyogenic infections of the skin naturally divide into two groups, superficial and deep. The superficial infections of the skin are represented by various types of pyodermias, such as pyogenic intertrigos, impetiginous streptococcic dermatitides, perleche, and common impetigos.

Of the deep skin infections most common are furuncles, carbuncles, ecthymas, erysipelas, cellulitis, and lymphadenitis.

Ultra-violet ray possesses a distinct local bactericidal effect, but its action is extremely superficial and is stopped by the thinnest sheet of paper tissue or pathologic deposit, such as crust, scab, scales, etc. Hence the ultra-violet ray can be useful only in the most superficial forms of pyodermias. Even then, to insure bactericidal effect it is absolutely necessary to clean the lesions of all pathologic deposits.

X-ray has no direct bactericidal effect, yet through some unexplained alterative effect on tissues has an inhibitive effect on bacteria, and fungi. The powerful absorptive action of x-ray on pathologic infiltrates and granulomata strongly enhances this inhibitive effect.

X-ray is essentially indicated in deep types of infection. It has been successfully used for a long time in deep mycotic and bacterial granulomata. Lately its successful use has been reported by several observers in acute and subacute pyogenic deep infections.

The prompt diminution of the pain and prompt resolution with or without suppuration and abscess formation has been confirmed also in my

personal experience in cases of furuncles, carbuncles, suppurative adenitis, and erysipeloid infiltrations.

X-ray radiation can be expected to effect a resolution only in the very early stages before the central necrosis or abscess formation takes place. The dosage is one-fourth, one-third and up to half of the skin unit with filtration, varying from half a millimeter to one or two millimeters of aluminum in deep hypodermic infections.

X-ray radiations should be given rather tentatively once or twice, two or three days apart, and if favorable reaction does not ensue in twenty-four or forty-eight hours, radiation should not be persisted in.

It is also important that x-ray should not be used as the sole therapeutic measures. All local, except highly irritating antiseptics or caustics and systemic measures indicated in individual cases should be applied.

In conclusion it can be stated that the use of x-ray in acute pyogenic infections has not as yet passed through the experimental stage and should be used with great conservatism. In selected cases highly satisfactory and at times spectacular results are obtained.

* * *

HARRY E. ALDERSON, M. D. (490 Post Street, San Francisco).—There is little to add to the discussion of Lawson and Scholtz, whose remarks correctly present the latest ideas on the subject. It is true that roentgen therapy of various pyogenic infections of the skin is effective if used very early in the proper dosage and with sufficient filtration. However, in the case of erysipelas our experiences have been disappointing. Perhaps it is because so many cases do not present themselves until they are too far advanced. Certainly one should be very careful in selecting one's cases for radiotherapy. Recently I saw a severe complicated example of carbunculosis which a surgeon had had a roentgenologist treat. The disappointing results and, consequently, prolonged illness of the patient may be attributed to the poor judgment of both physicians who failed to examine their patient who had diabetes and other serious underlying troubles. Attention to these latter conditions and one or two injections of typed bacteriophage locally and into the lesion would have given prompt and definite relief. Probably very early roentgen therapy along with constitutional care would have been beneficial too. It is perfectly true, as Lawson states, that injudicious selection of cases will bring the method into disrepute. It cannot be emphasized too strongly that the x-ray treatment should be applied *very early*.

Scholtz correctly includes ultra-violet therapy under this heading, although its use is limited to the most superficial pyogenic processes. However, there are so many other therapeutic procedures that are more promptly effective that I rarely resort to its exclusive use in these conditions.

Thirty-Three and One-Third Per Cent Reduction of Medical Fees.—Never before have we seen such world-wide economic depression, and so far we have not been able to find any "old timer" who can remember a similar or worse period in world affairs. Let it be understood that this editorial is in no sense political. The fact that ye editor is a democrat has nothing to do in any way with the free and frank discussion of the matters presented. It may be difficult for some overzealous partisans to eliminate the political aspect, but we must consider the depression as applying to the whole world. Space does not permit a review of the conditions in Australia, South America, Germany, England, and elsewhere, but all honest men admit the seriousness of these world conditions. Who is to blame for all this unhappiness, misery, and starvation is not the question we are considering.

What we wish to consider is the proper, just, and honorable position of the medical profession in relation to the cost of medical services. Every well-informed person will readily admit that most of the great corporations have sustained losses of at least 33 to 50 per cent in their business values. That wealthy people have had, as well as these corporations, reductions in their capital assets and in their incomes of one-third to one-half is common knowledge. This also applies to farmers, stockmen, sheepmen, cotton growers, and to all classes of merchants. The profit is all gone, and losses are universal.

Politicians and labor leaders, to hold their jobs, advocate no cut in wages in order to maintain the present high standard of American living. Deep in our hearts we all know this is an erroneous statement. The union bricklayer who received \$14 per day, a year or five years ago, can live under the present prices for all necessities of life just as well on \$8 or \$10 per day when he can purchase flour at \$1.25 per fifty pounds, whereas a short time ago he paid \$3 for the same. The same applies to all classes of commodities such as groceries and clothing, and to most other expenses. It is true that some things have not come down in price, but they will have to do so before any permanent prosperity can be universal. Under the above world conditions it seems no more than just that the fees for medical services be cut by 33⅓ per cent.

Your editor realizes that such a proposition is not and will not be a popular thing to advocate. The wrath of some members of our profession will fall upon his head, but the justice of such a move cannot be denied if we honestly consider economic conditions existing today. That a flat cut of one-third is much better than secret cuts which are at present going on all through the medical profession, is self-evident. The idea of a voluntary reduction of all fees by the medical profession may not be pleasing to consider, but we believe such a move is the only way to meet the conditions of today. It seems more fair for all to reduce our prices than to cut them secretly behind each others' backs.—*Colorado Med.*, October, 1931.

Grading of Hospitals Considered Necessary.—Should hospitals be graded in such a way that the Department of Health could take the position that, regardless of the qualifications of the operating surgeon, certain hospitals should be limited in their scope of operations? The Council of the College of Physicians and Surgeons is of the opinion that a most thorough system of hospital inspection should be inaugurated by a medical practitioner and not by a nurse, and that no definite action should be taken until such inspection has been completed, compiled and properly considered. In order to induce a greater number of pregnant women to make use of hospital facilities for maternity patients many Alberta hospitals are making a flat rate for a twelve days' stay in hospital, including case room, drugs and dressings, and are finding this very satisfactory and in the interest of the patients.—*Canad. M. A. J.*, September, 1931.

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Contributions—Exclusive Publication.—Articles are accepted for publication on condition that they are contributed solely to this journal.

Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

DEPARTMENT OF PUBLIC RELATIONS OF THE CALIFORNIA MEDICAL ASSOCIATION

A Department of Public Relations.—At this year's annual session of the California Medical Association at San Francisco, the House of Delegates, at its meeting of April 30, 1931, instructed the Council to take steps to create a "Department of Public Relations." The chairman of the Council appointed a special committee, consisting of Doctors Lyell C. Kinney of San Diego, Joseph M. King of Los Angeles, and Karl L. Schauff of San Francisco, to make a report thereon to the Council.[†] The report of that committee was submitted at the Council meeting, held at Pasadena on September 26.

The minutes of the September Council meeting cannot be printed until approved by the Council at its next meeting, which will be in January. In the meantime, it is in order to state that the special committee's report as adopted provided that "An Advisory Committee of Public Relations be established, composed of the chairmen of the component committees or commissions (Standing Committees on: Public Policy and Leg-

* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column which follows.

† See Item 17 of the Council Minutes of May 23, 1931, published in this issue of California and Western Medicine, page 389.

islation; Medical Economics; Hospitals and Clinics; Health and Instruction; and the Cancer Commission), with the president, secretary, and general counsel of the California Medical Association ex-officio." It was further voted that an effort be made to secure the services of a competent colleague, either from California or some other state, who would be the executive secretary of the department, and who would also act as director of the Department of Public Relations.

It was further voted "that the work and responsibilities of the present standing committees or commission shall be in no way curtailed, but that their grouping into the department shall be considered to be for the purpose of increasing their activity and efficiency."

* * *

An Organization Meeting Will Be Held in the Near Future.—It was also voted that the members of the Committee on Public Relations should be called together at an early day for the purpose of organization and of development of the work of this department.

As soon as this is done, further information will be given members of the California Medical Association through a Public Relations Department column in the official journal, which column will probably find a place in the California Medical Association department of CALIFORNIA AND WESTERN MEDICINE. Members of the Association who have suggestions to offer in these matters should write to the central office of the California Medical Association, in care of the Association Secretary. A Department of Public Relations can only become a real success when it has the generous and whole-hearted cooperation of members of the California Medical Association from all portions of California. All members are invited to participate in the activities of this new department, and suggestions will be cordially welcomed.

ANNUAL SESSION AND PRIZE ESSAY PAPERS—1932 SESSION AT PASADENA

Annual Session of California Medical Association in 1932 Will Be Held at Pasadena, May 2-5.—At the meeting of the Council of the California Medical Association, held in Pasadena on September 26, last, it was voted to hold next year's annual session at the Hotel Huntington, Pasadena, on Monday to Thursday, May 2-5, inclusive. This will be the first annual session to be held in Pasadena. The California Medical Association headquarters will be the Hotel Huntington, which has long been known as one of the great hotels of California and to which tourists from the East return year after year.

When the Council considered the date of next year's meeting—in particular relation to the American Medical Association meeting at New Orleans, which will be held on May 9-13, 1932—it was first voted to have the California Medical Association hold its meeting in the second week

of April. The hotel management requested a reconsideration, because at that time the hotel would still have many Eastern guests and accommodations for only about one hundred physicians would be available, whereas in the first week of May almost six hundred rooms would be free.

It is extremely important to the California Medical Association to have the largest possible number of members under the same roof during annual sessions, in order to better promote the good fellowship and personal contacts between members from different portions of the large state of California. The Council therefore very wisely decided on the later dates of May 2-5, even though these came in closer proximity to the American Medical Association meeting at New Orleans than was desirable.

Special mention is here made of these arrangements, in the hope that California Medical Association members who are looking forward to attending next year's annual session will send their reservations at an early date to the Hotel Huntington, Pasadena, California (Mr. S. W. Royce, manager).

* * *

Excellent Outlook for a Successful Meeting.—At the recent meeting of the Council, the chairman of the local committee of arrangements, Dr. Fitch C. E. Mattison, submitted a tentative program of afternoon and evening entertainments that received very favorable comment. Wherefore, it may be taken for granted that our Pasadena and Los Angeles colleagues will exert every effort to make the 1932 session altogether successful, so that in the future in the consideration of meeting places for the yearly reunions, the Hotel Huntington will be thought of with as pleasant recollections as are held of annual reunions which in days gone by have convened at the Hotel del Coronado, Hotel Del Monte, and Hotel Fairmont. These four great hotels, located in different parts of California, with their facilities to comfortably care for a large number of California Medical Association members, are very worth-while factors in making annual sessions enjoyable and profitable. If you wish to be sure of a reservation at the 1932 Hotel Huntington session, it will be wise to send in your reservation in the near future.

* * *

Places on the Scientific Program of the 1932 Annual Session Should Be Requested Now.—In the above paragraphs, the facilities of the Hotel Huntington for good fellowship and social features were mentioned. It must be remembered that an additional advantage which these large California hotels possess for California Medical Association annual reunions is their considerable number of auditorium and meeting place rooms for the different scientific sections of the Association, which make it possible for attending members to hear the particular papers of different sections in which they are most interested.

Following the plan which has been in vogue during the last several years, it is hoped in Pasadena

to have the members of the scientific sections get a prompt start each morning—section officers please take notice—with presentations of papers up to 1 o'clock or so, at which time luncheon will be served, to be followed by miscellaneous entertainment in the afternoons and evenings. The exception to this arrangement will be on the afternoon of the first day, Monday, when meetings of most of the scientific sections will be held.

On advertising page 4 of every issue of CALIFORNIA AND WESTERN MEDICINE the names and addresses of the section officers are printed. Every member of the California Medical Association who has in mind the submittal of a paper at one of the scientific sections should send in such request at once, if request has not been already made. It must be remembered that the officers who have charge of the section programs desire to learn as early as possible concerning the nature of papers which will be submitted, because in that way more rounded and nonconflicting programs can be presented. An additional advantage from early decisions in these matters is that papers which are drafted into rough form some months before the session are more apt to be productions of worth than those which are hastily put together at the last minute. And last but not least, carefully-thought-over topics and discussions not only make a better impression on the listeners at an annual session, but in the pages of the official journal carry more conviction, are of greater value, and are more appreciated by the hundreds of members who find it impossible to be present in person at the annual session.

Wherefore, again, it would make for a better 1932 California Medical Association annual session, if members who contemplate the presentation of papers would write to the proper section secretary, sending a copy of the request letter to the central office for the Association Secretary, Doctor Pope, who, as ex-officio chairman of the Committee on Scientific Program, also will be glad to have such information.

Essayists should keep in mind that the rules of the Association in regard to annual session papers, insofar as subsequent publication in the official journal is concerned, do not make it obligatory for CALIFORNIA AND WESTERN MEDICINE to print the same. The Association prints a leaflet—"Suggestions to Authors"—in which rules regarding the acceptance of manuscripts are outlined in some detail. California Medical Association members who have presentations of papers in mind and who do not possess a copy of this leaflet should address the Association Secretary with request therefor. Observance of the rules discussed therein will make for better papers and also for real conservation of time and effort for authors, editors, listeners, and readers.

* * *

Rules for California Medical Association Clinical and Research Prize Entrants.—In every number of CALIFORNIA AND WESTERN MEDICINE, on advertising page 2, is printed a note concerning the prizes which are annually offered by the Cali-

for the California Medical Association for the two best papers on clinical and research subjects. In order not to overburden the special committee on prizes, only such papers are considered, the authors of which have signified their desire to have their manuscripts so judged. During the last several years it has been distressing to the officers of the California Medical Association that so few entrants have registered for these prizes.

In the hope of securing a larger number of entrants, the rules were again revised by the Council at its September 26 meeting, and these rules are printed in the official notices of the California Medical Association column of this issue. (See page 386.)

It will be noted therefrom that any paper read before one of the scientific sections of the Association may be submitted for prize consideration. This is made possible through the observance of certain simple rules, whereby secrecy is preserved throughout as regards authors of such papers. As an item of historical interest, the names of California Medical Association members who were the winners or who secured honorable mention for the California Medical Association prizes—since these prizes were inaugurated some years ago—are printed in this number of CALIFORNIA AND WESTERN MEDICINE. (See Miscellany Department, under caption, Medical History of California, page 404.)

Members of the Association are again reminded that the Committee on Prizes holds inviolate the names of all entrants, giving publicity only to those entrants who receive either a prize or honorable mention. Under such conditions no essayist who has done considerable work in the preparation of an annual session paper need feel hesitancy in submitting it for the consideration of the Committee on Prizes. Members of the California Medical Association are again urged to do their part in maintaining these annual prizes. Each successful entrant receives a cash present of one hundred and fifty dollars and, in addition, a neatly framed scroll as a memento of his work. Of course, each entrant also receives that which is equally important, namely the great personal benefit incident to the preparation of such a paper. It would be most gratifying to the Association if the Committee on Prizes could report at the 1932 annual session that a goodly number of members had submitted papers for prize consideration.

THE PACIFIC INSTITUTE OF TROPICAL MEDICINE

The Article by Reed on "Organized Tropical Medicine in the United States."—In the September CALIFORNIA AND WESTERN MEDICINE, page 185, was printed an article by Alfred C. Reed, M. D., of San Francisco, which had the caption: "Organized Tropical Medicine in the Western United States."*

* See, also, article by A. E. Larsen in October CALIFORNIA AND WESTERN MEDICINE, page 368, and letter from J. V. Barrow in this number of CALIFORNIA AND WESTERN MEDICINE, page 403.

Reference is here made thereto, because the facts and plans which are brought out in Reed's discussion and comments are such as to invite the best thought of members of the California Medical Association, and be worthy also of the real interest and coöperation of both the medical profession and the lay public.

* * *

The Pacific Institute for Tropical Medicine.—For those who are not familiar with the status of tropical medicine research in America, it may be stated that the Hooper Foundation of Medical Research of the University of California has as one of its departments, "The Pacific Institute of Tropical Medicine," its chief being Dr. Alfred C. Reed, Professor of Tropical Medicine in the University of California Medical School, who is also the author of the above referred to paper. This institute began its active work in February, 1929. Its brief career has not only given justification for its existence but has proven and emphasized the desirability and need of a real school of tropical medicine for the Pacific Coast, with preferable location at San Francisco.

* * *

San Francisco Is a Logical Place for a School of Tropical Medicine.—Reed in his article very aptly states that the United States needs three well-developed centers or institutions of tropical medicine, to be located: one at New York, one at New Orleans, and one at San Francisco. The present day economic stress and strain, with its kaleidoscopic changes in world market relationships, instead of holding back, may really speed the formation of such institutions. Because if America is to establish a premier commercial influence in other continents than its own, and in such manner as to redound in large measure to the economic advantages of the people of the United States, it will be necessary to have somewhat of a trained American personnel whose members will be able to efficiently act as representatives of American business houses in the different countries of other continents.

* * *

What Leading European Nations Have Done.—That such a contention is not visionary is amply and forcibly demonstrated by what European countries whose nationals have been engaged in active competition for the trade of foreign markets in the tropics have found themselves obliged to do. By way of example, could anything be more convincing concerning the importance of schools of tropical medicine as important factors in trade than the following facts:

England has four important schools of tropical medicine, with its major institution in London;

Germany has a very notable institute of tropical medicine at Hamburg;

Holland has an excellent institution of tropical medicine at Amsterdam; and

Belgium has its institute of tropical medicine at Brussels.

The above trading nations of Europe, years ago, through experience, learned that in order to carry on successful trading with peoples of the tropics, it is necessary to have accurate knowledge of the diseases indigenous to such places. In that way trade representatives and travelers—through adequate preliminary education and equipment—are more fully protected against sickness and death, so that business contracts can be carried through to satisfactory fulfillment.

* * *

America in the Future Must Secure More Foreign Trade Markets.—In the struggle for the trade of the world markets—and the peoples of tropical lands offer an inviting field for such endeavors—the nations which send trade representatives who have passed under the supervision of their respective institutes of tropical medicine will have a big advantage. It must be apparent that our own country has still much to learn on best methods of obtaining the trade and good will of foreign peoples. In the past, with the immense territory open in continental America, that need has not been greatly felt, but when the great commercial readjustments which are taking place before our eyes are somewhat settled, then the need of such foreign markets will be appreciated by American business men.

* * *

Present Day Economic Stress Only Emphasizes the Need for an Institute for Tropical Medicine.—And because such will be the case, it may be taken for granted that one of the institutions in America which should and probably will receive both state and private aid will be the "Pacific Institute of Tropical Medicine" of the Hooper Foundation for Medical Research of the University of California.

In passing, it may be stated that plans for buildings and maintenance of this institute were carefully laid in 1929 and a prospectus was issued thereon. Methods for securing an endowment were also carefully worked out prior to that time and, in fact, were about to be inaugurated when the economic collapse in the fall of 1929 necessitated a suspension of all such efforts.

* * *

An Excellent Field for Philanthropic Endeavor.—Mention is made of this in the hope that the attention of citizens who are looking for ways of doing a big service for humanity, for the advancement of science and for the material prosperity and greater development of California and the United States, may be called thereto.

The Pacific Institute for Tropical Medicine is not only giving courses of instruction but has been carrying on most interesting and valuable investigations and researches. It is an institution which is worthy of the active interest and sympathetic cooperation of all citizens of California. Members of the California Medical Association who aid in spreading its reputation for good work will be honoring themselves, their profession, and their State.

STATE MEDICAL LIBRARY

State Medical Library Act Meets With Complications.—The last mention of the State Medical Library of California in CALIFORNIA AND WESTERN MEDICINE was printed in the July, 1931, number, page 48. In that and previous editorials it was stated that the State Medical Library Act (A. B. 477—Neilson), which was signed on June 9, 1931, by Governor James J. Rolph, Jr.—with other legislative measures that had passed both houses—would become a law some sixty days after the date of adjournment of the legislature.

The distress of those members of the California Medical Association who had particularly sponsored and strenuously worked for A. B. 477 for a state medical library can be imagined when in the fore part of October news was given out that a seemingly technical flaw in the legal phraseology of the title of the act might endanger that section thereof which had to do with the appropriation of moneys for its maintenance, thus making impossible the institution of library work until this defect could be remedied by a succeeding legislature. That appropriation, it will be remembered, was made possible through an allocation and transfer of moneys from the reserve funds of the Board of Medical Examiners of the State of California to the regents of the University of California. The act provides that the California State Medical Library with its major branches at San Francisco and Los Angeles is to be conducted under the supervision of the state university regents as one of the activities of the University of California.

* * *

The Unexpected Difficulties Were Overcome.—It is a pleasure therefore to chronicle in this column that these new and unforeseen difficulties have been surmounted, and that a *state medical library will be instituted in California*. This brief comment is here printed so that the members of the California Medical Association who have been watching with interest this new experiment in state library work may know that all is well and that in due time the state medical library will begin its work. In later issues of this journal, as the detailed plans are developed, further comment will be made, so that members of the Association may know how to avail themselves of the privileges of this new institution.

The Sad Experience of Baltimore.—Disastrous fires, both in California and elsewhere, preach telling sermons in favor of Assembly Bill No. 734. The famous Baltimore fire of 1904 necessitated calling for help from the departments of New York, Philadelphia, and Washington. When the men arrived with their trucks and equipment, it was found to be impossible to function, because the fire hose of the other cities had a different thread from that used in Baltimore. Therefore the expert aid needed in the time of great emergency was lacking. Millions of dollars of property was lost, lives were in jeopardy, and confusion was accentuated as an outcome of what would seem to many to be the lack of that uncommon common sense which plans for the days ahead.—*California State Department of Industrial Relations, May 1931.*

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

The Injection Treatment of Anal Fissure.—Fissure in ano comprises eight per cent of rectal cases and is dreaded by most practitioners. The patient is commonly in such severe pain that he demands instant relief. Local applications of medicine, except in the mildest cases, bring tardy, if any, improvement. Operative interference by excision of the fissured area, or divulsion or cutting of the sphincters, is regarded by the patient with an apprehension occasionally deserved. Yet, as a matter of fact, there are few troubles so promptly relieved and so happily cured as is anal fissure by the injection method.

When a complaint of severe rectal pain is presented in the absence of fever, and the patient is carefully examined with the buttocks drawn well apart, a fissure or ulcer may be found either in the exact posterior or, occasionally in women, in the exact anterior quadrant close to the anal canal. The sphincter ani and levatores ani muscles run in anteroposterior direction supporting the anal canal. Strain across the direction of their fibers is well supported, but the unsupported skin between their fibers in the posterior or six o'clock quadrant is readily torn when pressure is there concentrated, as by straining to pass a large, hard stool.

The patient being in the left Simms position, procain hydrochlorid solution one per cent is injected very slowly by a hypodermic needle three-fourths inch, gauge 25, underneath the fissured area. This is to render the area insensitive while the injection of the more permanently anesthetic and curative solution of quinin urea hydrochlorid follows. Two per cent solution is recommended, injected slowly, deep beneath the fissure. Some have used five per cent, but if such a strong solution be used the quantity should be limited to one cubic centimeter lest a slough occur. I prefer, for safety, weaker solutions in rather larger quantity and find them equally effective. If there be a tiny sentinel pile of skin just peripheral to the external end of the fissure it is snipped off to assure good drainage from the fissure. As soon as injection is made the patient is completely relieved of his severe pain. He leaves the office happy and grateful.

The sphincter ani muscle now lets go of its spasm and allows the ulcer to begin healing. Primary disease up in the anal canal may be treated meanwhile. In ten days there is a mild return of pain in the fissure, and one more injection of procain is given, followed by quinin urea, this time in only one per cent. In three weeks, healing should be complete and at no time should the patient be uncomfortable.

Contraindications to the injection treatment are anal ulcers due to such causes as tuberculosis, chancroidal infection, carcinoma, and chancre. Tuberculous ulcers are usually multiple. Chancroidal ulcers spread rapidly. Carcinoma has a hard, often rolled border. Chancre is more difficult to distinguish, but inguinal lymph adenopathy may raise the suspicion of need for darkfield examination.

NORMAN J. KILBOURNE, Los Angeles.

Pneumonia on the Pacific Coast.—Because most pneumonia studies on large series of cases have been conducted in the eastern and middle western states clinics, it was thought that a survey of this disease as met with on the Pacific Coast would be of interest. These findings, which are briefed from a larger paper, are here given in short summary:

The winter of 1928-1929 was marked by the prevalence and the virulence of the pneumonias in California. At Highland Hospital in Oakland, where this study was made, 485 patients were treated. Of these, 393 were diagnosed bronchopneumonia, and 87 lobar pneumonia. The mortality among the former was 32 per cent, while among the latter it was 34 per cent. The greatest number of deaths occurred between the ages of thirty to forty-five years. The ratio of males to females was two to one. In children 85 per cent of the patients suffered from bronchopneumonia with a mortality of 20 per cent. In lobar pneumonia patients the temperature fell by crisis in 30 per cent. The seat of lesion occurred in the right lung in 70 per cent, in the left lung 22 per cent, while in 8 per cent it was bilateral. Complicating features in all pneumonias, however, were not usual. Delayed resolution occurred in 3 per cent, empyema in 2 per cent, meningitis in 0.5 per cent, pericarditis in 0.5 per cent.

During the winter of 1929-1930 only 268 cases of pneumonia were encountered. Of these, 210 suffered from bronchopneumonia, and 58 from lobar pneumonia. The mortality in the former was 21 per cent, while in the lobar type it was but 10 per cent. Empyema occurred in but 2 per cent of the patients suffering from bronchopneumonia, none of them being fatal.

The most obvious reason for these differences, both in prevalence and mortality, in these two years was the apparent low virulence of the organism, for the treatment remained essentially the same.

The subject of serum treatment being a pertinent one, investigation was undertaken with this

end in view. Typing was done by the rapid Sabin method and 91 per cent of patients were infected by pneumococcus group IV organisms, in which were included the streptococcus forms. An extensive correspondence was instituted involving form letters to the large medical centers and hospitals in this country and Canada. The replies from all eastern clinics indicated that types I and II serum treatment had been used with good results. The results from the Middle Western and Rocky Mountain states were not so enthusiastic, while on the Pacific Coast, serum treatment was discouraging, to say the least. At Los Angeles County Hospital the concentrated serum had been used during the winter 1928-1929, but with poor results. During the winter of 1929-1930, the antibody solution of types I, II, and III combined was used. The use of both these therapies proved of no particular value and their use was discontinued. These same results were met with in other centers along the Coast.

The conclusions drawn from this study are:

1. Bronchopneumonia is the most common type met with on the Pacific Coast, occurring five times as often as lobar pneumonia.
2. Complications in this form are uncommon and have a low mortality rate.
3. Group IV pneumococcus is the most constant organism found.
4. Little hope can be held for successful results by the use of the type I and II sera used in the eastern United States and Canada.

PAUL MICHAEL, Oakland.

Thallium Acetate Depilation for Ringworm Dangerous.—This new "easy way out" of the treatment of ringworm of the scalp has centered attention on the articles appearing in both foreign and domestic literature and, as is often the case, it is difficult for the bedside physician to properly evaluate the treatment.

Like most "easy ways out," we use such methods only to regret later. This promises to be true in the case of thallium acetate. We have forsaken the reliable roentgen ray and local treatment with no mortality and insignificant morbidity for a therapy with a considerable morbidity and a not to be disregarded mortality. "Old ways are the best," is the true statement of fact in the treatment of ringworm of the scalp. Do not accept thallium without sober and sincere reflection that, although all may go well, death and disability may be your associates in the treatment.

Thallium acetate must be accurately weighed as must the patient; the dosage must then be carefully calculated, the age and the ratio of age to weight must be considered as well, and if you make a mistake of a decimal place or an error in judgment in evaluation of your patient, take care!

Regarding the toxicology of thallium, it shows a marked similarity to lead in chemical and toxic properties. It has a selective action on all forms of nervous tissue and in the rat causes degeneration in the brain cells even in tiny doses. It can

be assumed that the same occurs to the human central nervous system. The excruciating peripheral neuritis developed by sensitive patients further bears this out. Permanent brain injury can conceivably occur. The margin of safety between the epilating dose on the one hand, and the toxic dose on the other is so small as to constitute an active danger especially, as individual susceptibility cannot be determined by weight and age alone. Thallium does not deteriorate in solution, and therefore the symptoms cannot be blamed on the solution used.

The rumor that the medical profession is soon to be detailed by certain drug houses with preparations of thallium, and the incorporation of thallium in epilating creams for cosmetic application gives urge to a plea to the bedside physician to avoid thallium until its dangers can be evaluated and eliminated.

It is probable that in the event of a reaction to thallium the intravenous use of calcium would protect the patient through a fixation of the metal as it does in lead poisoning. This, however, is simply a conclusion of the author without his having so used it.

MERLIN T-R. MAYNARD, San Jose.

Syphilitic Infection Without Symptoms.—While it is true that the results obtained in experimental syphilis in rabbits are not necessarily applicable to man, the studies recently published by Albrecht from Kolle's Institute in Frankfurt, on the transmissibility of syphilis in rabbits are so interesting that we reproduce the author's summary from the article in the *Deutsche Medizinische Wochenschrift*:

"1. The fact, established by Kolle and Ritz, that the vaginal mucous membrane of rabbits is well adapted to the production of syphilitic processes is confirmed. By careful swabbing of the vagina with chancre emulsion, whereby injury to the mucous membrane is excluded, primary lesions in the vaginal mucous membrane could be produced in some of the animals. In other animals no vaginal lesions could be discovered, even despite most careful examination.

"2. Some rabbits which showed no demonstrable lesions following vaginal introduction of the virus were yet found to be infected (as evidenced by gland transplantation) despite the fact that they remained entirely free of symptoms, and showed no primary lesions, swelling of the glands or other signs.

"3. Female rabbits infected intravenously and having generalized syphilis can, after the signs have disappeared, *i. e.*, during the latent stage when no signs or symptoms of any kind are discoverable, infect normal male rabbits through coitus.

"4. A syphilitic male rabbit made free of signs and symptoms by chemotherapeutic treatment, but not sterilized, is able through coitus to produce a syphilitic infection without symptoms in a healthy female rabbit.

"5. A female rabbit, vaginally infected without the symptoms, can infect a male rabbit through coitus, the infection being without symptoms, and this male can in turn through coitus produce a syphilitic infection, again without symptoms in another female rabbit.

"6. Since syphilis is an infectious disease of man, for which the species 'homo sapiens' is more susceptible than is the species 'cuniculus,' we are justified in assuming the spread of infection without symptoms also for man."—*City of New York Department of Health Weekly Bulletin*, August 2, 1930.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JUNIUS B. HARRIS.....President
JOSEPH M. KING.....President-Elect
EMMA W. POPE.....Secretary

OFFICIAL NOTICES

Clinical and Research Prize Contest Rules

General Directions to Entrants:

1. Any member of the California Medical Association is eligible to compete for the prizes. Any question arising as to the eligibility of a candidate or the admissibility of his essay will be settled by the decision of the Council.

2. Manuscripts must be typewritten on one side of the paper; they must be double spaced; and they must not be folded or rolled. Illustrations or charts must be marked with the title of the paper to which they belong.

3. Essays must not contain more than four thousand words. In judging a paper the committee will take into account the basic importance of the work done and its novelty; the thoroughness with which the research has been carried out; the clearness with which it has been written up; and the neatness of the manuscripts and illustrations.

4. Papers should be sent, preferably by registered mail, to Dr. Emma W. Pope, secretary of the California Medical Association, Room 2004, 450 Sutter Street, San Francisco. They should be identified by a nom de plume or motto only. A separate envelope should be sent to Doctor Pope containing the author's name and his nom de plume or motto, so that after the award is made the name of the writer can be found. Any return addresses or distinguishing marks will be removed from the wrappers before the papers are turned over to the judges.

5. All papers must be in the hands of Doctor Pope before February 15, in order that the judges may finish their work in time for the meeting of the Association.

6. The judges reserve the right to withhold the award in the event that no paper comes up to the standards of excellence they feel should be set.

7. If, in the judgment of the editors of CALIFORNIA AND WESTERN MEDICINE, and the editorial councilors, the paper on laboratory research is too technical or otherwise unsuitable for inclusion in CALIFORNIA AND WESTERN MEDICINE, the prize winner will be allowed to publish it in some special journal and will be required to make an abstract for the readers in California.

8. Inquiries relative to the prize contest should be addressed to the chairman of the committee, George Dock, M. D., 94 North Madison Avenue, Pasadena, California.

Directions to entrants for the annual Clinical and Research Prizes who desire to present their contest papers before a section at the same annual session:

1. All papers entered for the Clinical and Research Prizes are eligible to be read at the annual session of the California Medical Association under the following conditions:

*For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellaneous.

2. Each entrant to send one copy of his paper to the state office in the usual way for consideration by the Prize Committee, signed by his nom de plume, and under a title changed so that it could apply to a similar but different paper.

3. Each entrant to send to the proper section the second copy under his own name and proper title.

4. The Prize Committee will consider each article from the standpoint of its relative value to other papers submitted for the prizes, but will be unable because of dissimilarity in the two titles of the papers as given on the program and before the committee to connect the two as being one and the same paper.

5. Section officers will approve or disapprove all papers for places on specific section programs as heretofore. They will have no knowledge that any paper is under consideration by the Prize Committee.

* * *

Annual Session, 1932.—May 2-5, 1932, has been set by the Council of the California Medical Association as the date of the sixty-second annual session of the California Medical Association. The date will appear on the top of the front cover each month.

* * *

Next Council Meeting.—The date of the January meeting of the Council has been set for January 16. The meeting will be held in the offices of the Association, 2004 Four Fifty Sutter Street, San Francisco.

COUNCIL MINUTES

Minutes of the Two Hundred and Second Meeting of the Council of the California Medical Association

Approved at the Two Hundred and Second Meeting of the Council of the California Medical Association, September 26, 1931

Held in the offices of the Association, Room 2004, 450 Sutter Building, San Francisco, Saturday, May 23, 1931, at 10:30 a. m.

Present.—Doctors Harris, King, Hamlin, Duffield, Ullmann, DeLappe, Phillips, Schaupp, Peers, Rogers, Hunter, Kelly, Catton, Reinle, Cushman, Kress, Pope, and General Counsel Peart.

Absent.—Doctors Pallette, Arnold, and Kiger.

1. **Call to Order.**—The meeting was called to order by the chairman, Oliver D. Hamlin.

2. **Financial Statement.**—Financial statement for the month of April 1931 was presented by the secretary and approved as follows:

April 1931	
Total receipts for April.....	\$ 6,263.36
Total expenses for April.....	7,389.74
Loss for April*.....	1,126.38
Gain for 1931, three months.....	29,328.14
Net gain for 1931.....	\$ 28,201.76
Cash on hand:	
January 1, 1931.....	\$97,934.28
Revolving fund.....	500.00
Petty cash.....	50.00
Salary fund.....	1,300.00
	\$ 99,784.28
Total cash on hand, April 30, 1931.....	\$127,986.04

3. **Minutes of the Council.**—The chairman stated that the minutes of the 200th and 201st meetings of the Council had been mailed to all members thereof,

*The apparent increase of expenses over receipts from April to December is occasioned by the fact that the major portion of dues is received during the first three months of the year.

and if there were no objections he would entertain a motion for their approval without further reading.

Doctor Cushman stated that the last sentence of the second paragraph of minutes 18 of the 201st meeting was ambiguous and that he wished to move for the adoption of a change which would make this sentence read: "Doctor Kelly stated that as associate editor it would be Doctor Pope's duty to do the routine office work connected with the JOURNAL, and that Doctor Kress would assume the full responsibilities as editor of the official journal." Doctor Cushman's motion was seconded by Doctor Kelly and carried.

Action by the Council.—On motion of Kelly, seconded by Hunter, and unanimously carried, the following resolution was adopted:

Resolved, That the minutes of the 200th and 201st meetings of the Council, as amended, be adopted.

4. **Arrangements Committee.**—Discussion was had of the appointment of a chairman of the Arrangements Committee for the 1932 annual session and the Los Angeles members stated that Doctor Mattison was at present working on arrangements for the meeting, and they suggested he be appointed chairman.

Action by the Council.—On motion of Duffield, seconded by Kress, the following resolution was adopted:

Resolved, That the appointment of Fitch C. E. Mattison as chairman of the Arrangements Committee be ratified and that Doctor Mattison be authorized to suggest the other members of the committee, who will be appointed by the chairman, subject to the approval of the Council.

Letter from Dr. Charles D. Lockwood regarding a public meeting at the annual session and arrangements for speakers was presented.

Action by the Council.—On motion of Kress, seconded by Kelly, the following resolution was adopted:

Resolved, That the letter from Doctor Lockwood be referred to the local Arrangements Committee with instructions to report back to the Council.

5. **Fall Council Meeting.**—Discussion was had of the date and place of the next meeting of the Council.

Action by the Council.—On motion of Duffield, seconded by Kress, and unanimously carried, the following resolution was adopted:

Resolved, That the next meeting of the Council be held on September 26, 1931, at the Hotel Huntington, Pasadena.

6. **Date of Annual Meeting.**—Discussion was had of the setting of the date of the 1932 annual session and on motion of Kress, seconded by Kelly, the following resolution was adopted:

Resolved, That the date of the next annual session be decided at the meeting of the Council on September 26, 1931.

7. **Delegates to the American Medical Association.** The secretary stated that on account of illness Dr. Dudley Smith, delegate to the American Medical Association, would be unable to attend the session at Philadelphia and that Dr. Joseph Catton, his alternate, was also unable to attend on account of unforeseen circumstances. Letter from Doctor Kress regarding the inability of Percy T. Magan, delegate, and his alternate, Charles D. Lockwood, to attend the Philadelphia session was presented.

Telegram from the secretary of the American Medical Association regarding ruling on certification of delegates was read.

Action by the Council.—On motion of Kress, seconded by Duffield, and carried, the following resolution was adopted:

Resolved, That the California delegation present the following resolution at the first meeting of the House of Delegates of the American Medical Association:

"Resolved, That it is the sense of the House of Delegates of the American Medical Association that those provisions of the Constitution and By-Laws of the American Medical Association dealing with the credentials of constituent state associations shall be

construed by the Credentials Committee, when a constituent state association reports that one of its delegates and his respective alternate are both unable to attend a special annual session of the American Medical Association in which one of them could have functioned as a delegate, that under such conditions (provided the constituted body or council of such a constituent state association is authorized by its state constitution and by-laws to act for the state association and its house of delegates) that when such authorized state body has duly elected others of its members to fill the vacancies caused by the absence of both a delegate and his respective alternate, then such a duly elected substitute delegate or his duly elected substitute alternate who present proper credentials, shall be eligible to regular membership in the House of Delegates of the American Medical Association for such a specified annual session."

The Council then proceeded to elect substitute delegates and alternates to the American Medical Association.

James F. Percy of Los Angeles was nominated as delegate to the American Medical Association for the 1931 session by William Duffield; such nomination was seconded by George G. Hunter. Junius B. Harris moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried. The secretary cast the ballot of all members of the Council and the chairman announced the election of James F. Percy as delegate to the American Medical Association for the 1931 session to serve in the place of Percy T. Magan.

George L. Cole of Los Angeles was nominated as alternate to James F. Percy for the 1931 session of the American Medical Association by William Duffield; such nomination was seconded by Junius B. Harris. Joseph M. King moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried. The secretary cast the ballot of all members of the Council and the chairman announced the election of George L. Cole as alternate to James F. Percy to the American Medical Association session of 1931; Doctor Cole serving as alternate in place of Charles D. Lockwood.

Merton J. Price of San Francisco was nominated as delegate to the American Medical Association for the 1931 session by Joseph Catton; such nomination was seconded by Junius B. Harris. Alfred L. Phillips moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried. The secretary cast the ballot of all members of the Council and the chairman announced the election of Merton J. Price as delegate to the American Medical Association for the 1931 session to serve in place of Dudley Smith.

John M. Graves of San Francisco was nominated as alternate to Merton J. Price for the 1931 session of the American Medical Association by Joseph Catton; such nomination was seconded by Fred R. DeLappe; George G. Hunter moved that the nominations be closed and the secretary be instructed to cast the ballot; such motion was duly seconded and carried. The secretary cast the ballot of all members of the Council and the chairman announced the election of John M. Graves as alternate to Merton J. Price to the American Medical Association session of 1931; Doctor Graves serving as alternate in the place of Doctor Catton.

Letter from Albert Soiland, delegate, stating that he did not intend to return immediately to California after the American Medical Association meeting and asking if it would be possible to receive his expense money before leaving for the meeting was presented.

Full discussion was then had of payment of transportation expenses of officers of the Association.

Action by the Council.—On motion duly made, seconded and carried, the following resolution was adopted:

Resolved, That expenses of transportation be allowed and paid by the California Medical Association in the following cases:

1. To councilors in attending meeting of the Council of the California Medical Association and of the Trustees of the California Medical Association (not including annual session meetings).

2. To delegates or alternates to the American Medical Association who attend meetings as members of the House of Delegates thereof.

3. To members of the Committee on Scientific Work in attending meetings thereof.

4. To officers of the Association and members of Committees thereof when authorized or ratified by the Council or the Executive Committee.

Expenses of transportation shall not exceed the amount required for standard railroad fare (including lower berth when night travel is involved) for the distance traveled from place of residence; and shall be allowed only for the amount actually disbursed for transportation and Pullman service to be evidenced by written statement signed by the person to whom such expenses are paid.

The question of instructing delegates regarding the resolution adopted on change of name of the Committee on the Costs of Medical Care was called to the attention of the Council.

Action by the Council.—On motion of Kelly, seconded by King, and unanimously carried, the following resolution was adopted:

Resolved, That in accordance with previous Council action, the California Medical Association delegates be instructed to present the resolution.

8. **Legislation.**—Junius B. Harris, Chairman of the Committee on Public Policy and Legislation, reported on the status of medical legislation at the adjournment of the legislative session.

9. **Cancer Commission.**—Charles Dukes, Chairman of the Cancer Commission, reported that the organization of the commission was completed and that Doctor Kilgore, secretary, would outline the plan of activity. Doctor Kilgore, secretary of the commission, appointed under authority of the House of Delegates, then outlined the requirements of the commission and submitted a budget covering office rental, furnishing, equipment, and salaries totaling \$4300.50 for the first year. Doctor Kilgore stated that this budget allowed for one-third of the office rent on the assumption that if the Council established a Public Relations Department as authorized by the House of Delegates these two departments could occupy one office and a fair estimate of the expenses would be one-third for the Cancer Commission and two-thirds for the Public Relations Department.

Action by the Council.—On motion of Ullmann, seconded by Schaupp, the following resolution was presented:

Resolved, That the budget as submitted be accepted with the condition that the commission be authorized to expend, in case of necessity, not over \$4500 instead of \$4300.50 for the first year.

Doctor Catton then discussed the motion, stating that while he was in sympathy with the idea he hoped the Association would give due consideration to the problem and act without haste, explaining that the cancer problem was only one branch of medicine and that approximately one-tenth of the annual income of the Association was being allocated to this work.

Action by the Council.—Doctor Catton then offered the following substitute motion, which was seconded by Duffield:

Resolved, That this Council commends the report of this commission and is in full accord with the thought expressed and the procedure outlined by the commission, but it feels it should not go ahead and allocate this money without first giving complete consideration to the whole problem, and it now refers to the Executive Committee, with power to act, this complete report of the commission.

After further discussion the chairman called for a vote on Doctor Catton's substitute motion. 5 ayes; 7 noes. Substitute motion defeated.

A vote was then taken on the original motion of Doctor Ullmann, and the majority being in favor

the motion was adopted by the Council; Doctors Duffield, Catton, and Cushman voting "No."

Terms of members of the commission were then fixed as follows: Doctors Ophüls, Meland, and Zeiler, one-year terms; Doctors Brunn, Ullmann, and Toland, two-year terms; Doctors Dukes, Kilgore, and Kinney, three-year terms.

10. **Board of Medical Examiners.**—Letters from the Los Angeles County Medical Society and William Duffield regarding the expiration of the terms of certain members of the Board of Medical Examiners was presented.

Action by the Council.—On motion of Harris, seconded by Duffield, the following resolution was adopted:

Resolved, That these letters be passed at this time.

11. **Membership.**—Letter from the secretary of the Orange County Medical Society regarding the provision of the Constitution on six months' residency before admission to a county society in cases of former members of the California Medical Association who had been abroad was presented. It was the sense of the Council that the provision of the Constitution and By-Laws be adhered to.

Letter from the secretary of the San Bernardino County Society regarding remittance of dues of deceased member was presented.

Action by the Council.—On motion of Kress, seconded by Harris, the following resolution was adopted:

Resolved, That the Association accept the dues and that same be then remitted.

Membership data and letter from the San Francisco County Medical Society requesting that retired membership be granted Agnes Walker was presented.

Action by the Council.—On motion of Hunter, seconded by Harris, the following resolution was adopted:

Resolved, That Agnes Walker, member of the San Francisco County Medical Society, be granted retired membership in the California Medical Association.

Membership data and letter from the Sonoma County Medical Society requesting that Elizabeth Yates be granted retired membership, was presented.

Action by the Council.—On motion of Harris, seconded by Duffield, the following resolution was adopted:

Resolved, That Elizabeth Yates, member of the Sonoma County Medical Society, be granted retired membership in the California Medical Association.

12. **Advertising.**—Letter from a member of the Association objecting to an advertisement of a sanitarium carried in the JOURNAL was presented. It was pointed out that although previous advertisements had not carried the name of the medical director, such name now appeared in the advertisement. It was the sense of the Council that there was no objection to the advertisement.

Letter from Doctor Rogers regarding an advertisement carried in the American Medical Association journal was presented. The secretary stated that this article was included in exempted articles in New and Nonofficial Remedies.

13. **Collection of Fees.**—Letter from a member of the San Francisco County Medical Society regarding suit for collection of fees was discussed. The general counsel was instructed to formulate a letter to cover the point in question.

14. **Ownership of Journal.**—Letter from Doctor Kress requesting information on yearly publication of statement of ownership in the JOURNAL was read. The general counsel stated that scientific publications were exempted from publication of such notice.

15. **County Hospitals.**—Letter from a member of the Kern County Society regarding the use of county hospitals by pay patients was discussed by the Council.

It was suggested that the General Counsel reply to the Kern County member.

Action by the Council.—On motion of Kress, seconded by Kelly, the following resolution was adopted:

Resolved, That certain members of the Kern County Society be invited to attend the next meeting of the Executive Committee to discuss this problem.

* 16. (See footnote.)

17. Public Relations Committee.—Discussion was had of the establishment of a Department of Public Relations as authorized by the House of Delegates.

Action by the Council.—On motion of Kelly, seconded by Catton, the following resolution was adopted:

Resolved, That the chairman of the Council appoint a committee of not less than three nor more than five to study the matter and report to the Council at the fall meeting.

Letter from Rollin B. French was presented and was referred to the committee to be appointed by the chairman to study and report on the Public Relations Department.

The secretary was instructed to write a special letter to Doctor French notifying him of the action of the Council and advising that his letter will be referred to this committee for its information and guidance.

18. Survey of Clinics.—Discussion was had of the survey of clinics in California as authorized by resolution adopted by the House of Delegates.

Action by the Council.—On motion duly made and seconded, the following resolution was adopted:

Resolved, That the resolution be referred to the Committee on Hospitals, Dispensaries, and Clinics for decision and action and that a report be made at the fall meeting of the Council.

19. Health Officers and Public Health Nurses.—Discussion was had of the appointment of a special commission to investigate the matter of scope and practice of health officers and health nurses as authorized by resolution adopted by the House of Delegates. It was felt that the Standing Committee on Hospitals, Dispensaries, and Clinics could carry on this investigation.

It was the sense of the Council that the resolution be referred to the Committee on Hospitals, Dispensaries, and Clinics and that it submit a report at the next Council meeting.

20. Better Health.—Invoice from Better Health incorporated, covering subscriptions to BETTER HEALTH, was presented and on motion of Harris, seconded by Cushman, the following resolution was adopted:

Resolved, That the invoice be paid.

21. Indemnity Defense Fund.—Letter prepared by the secretary and the general counsel explaining the status of the assignment of the funds of the Indemnity Defense Fund was presented and approved by the Council.

22. Lay Publicity.—Letter from Doctor Rogers calling attention to a statement published in newspapers throughout the country purporting to be made by the secretary of the American Child Health Association was presented.

Action by the Council.—On motion of Kelly, seconded by King, the following resolution was adopted:

Resolved, That the matter be taken up editorially.

23. Medical Libraries.—Letter from Langley Porter was presented stating that a shortage of funds was crippling the activities of the Lane Library and requesting that a sum of approximately 50 cents per member be given the Library. Doctor Kelly outlined the service offered by the Lane Library to the medical profession and gave a brief report on the sources from which funds were obtained for upkeep of the Library. The educational work carried on through the packet service of Lane Library was discussed. The financial condition of Barlow Library was then discussed, and three directors of the Barlow Library being present a request for assistance by the State Association was presented. The whole question was then discussed in detail.

Action by the Council.—On motion of Kress, duly seconded, the following resolution was presented:

Resolved, That the sum of 25 cents per member be allocated to Lane Medical Library at San Francisco and 25 cents per member to Barlow Medical Library at Los Angeles for the current calendar year only, it being specified that no precedent is established thereby.

Doctor Duffield moved that the matter be tabled; such motion was not seconded.

The chairman then called for a vote on Doctor Kress' motion and it was adopted by the Council.

24. Examination of School Children.—Letter from the secretary of a county medical society regarding health campaigns for school children was presented and the question was then discussed by the Council. No action was taken.

25. Funds.—Discussion was had of the transfer of funds of the California Medical Association to the Trustees of the California Medical Association as authorized by action of the House of Delegates at the fifty-eighth annual session, May 8, 1929.

Action by the Council.—On motion of Kelly, seconded by Duffield, the following resolution was adopted:

Resolved, That of the present reserve fund of the California Medical Association Twenty-Five Thousand Dollars (\$25,000) be transferred to Trustees of the California Medical Association pursuant to resolution of the House of Delegates adopted at the fifty-eighth annual session thereof, held May 8, 1929, at Coronado, California.

* 26. (See footnote.)

27. Medical Service Corporations and Hospital Associations.—The matter of corporations practicing medicine was brought up and on motion of Harris, seconded by Hunter, the following resolution was adopted:

Resolved, That the matter of investigation of medical service corporations and hospital associations be referred to the Executive Committee.

28. Woman's Auxiliary.—Letter from the president of the Woman's Auxiliary asking that the California Medical Association assist the auxiliary to the extent of printing 250 copies of the auxiliary constitution and by-laws was read.

Action by the Council.—On motion of Duffield, seconded by Harris, the following resolution was adopted:

Resolved, That the Association stand the expense of publication of 250 copies of the constitution and by-laws of the Woman's Auxiliary.

29. Director of Department of Institutions.—Doctor Toner, Director of the Department of Institutions, was introduced to the Council by the chairman. Doctor Toner then spoke to the Council stating that he wished to cooperate with the medical profession.

30. Adjournment.—There being no further business the meeting adjourned.

OLIVER D. HAMLIN, *Chairman.*
EMMA W. POPE, *Secretary.*

EXECUTIVE COMMITTEE MINUTES

Digest of the Minutes of the 128th Meeting of the Executive Committee Held at San Francisco on June 20, 1931

1. Roll call: One member absent.
2. Election of T. Henshaw Kelly, Chairman of the Executive Committee.
3. Financial report for the month of May read and approved.
4. Report on suit against health officer. No action.
5. General counsel authorized to reply to letter regarding medical testimony.
6. Antimedical propaganda presented. No action.
7. Presentation by Doctor Packard of county hospital problem in Kern County. Committee appointed

* Items 16 and 26 deal with a medico-legal problem; publication has been deferred for the time being.

to confer with members of the Kern County Society with the view of presenting to the Executive Committee and the Council plans that might aid in the solution of the problem of use of county hospitals by other than indigent patients.

8. Gathering of hospital association information authorized.

9. Editor empowered to insert in CALIFORNIA AND WESTERN MEDICINE excerpts from daily journals showing votes on various public health legislation.

10. Appointment by Executive Committee of chairmen of unorganized standing committees.

11. Approval and publication of minutes of all sessions of the House of Delegates and Council at annual meetings discussed. Referred to Council.

12. Letter regarding advertising in JOURNAL read by Editor. Recommendations therein approved with exception of Book Shelf. Secretary-Treasurer instructed to report on advertising contracts to Executive Committee.

Disapproval of advertising of part-pay clinics or primary fee schedules in CALIFORNIA AND WESTERN MEDICINE.

13. Extra folio authorized by Executive Committee for not to exceed three months to expedite publication of papers from previous annual sessions.

14. Minutes of meetings of members and directors of Trustees of the California Medical Association presented.

15. Former allocation of one page space in CALIFORNIA AND WESTERN MEDICINE for Woman's Auxiliary confirmed.

16. Rules governing Clinical and Research Prize Contest referred to chairman of Executive Committee for revision and submission to Council for approval.

17. Ruling of Executive Committee that requests for legal opinions of general counsel of the California Medical Association must be sent to secretary and approved by president, secretary or chairman of the Council.

18. Progress report by general counsel on insurance matters.

19. Resolution covering reinstatement of delinquent members of the California Medical Association after acceptance of dues by county society referred for action of Council.

20. Publication in CALIFORNIA AND WESTERN MEDICINE of report of work of Kellogg Foundation referred to Council.

21. Adoption of resolutions on the death of Dr. Gayle G. Moseley.

22. Adjournment.

* * *

Digest of the Minutes of the 129th Meeting of the Executive Committee Held in San Francisco on August 22, 1931

1. Roll call: One member absent.

2. Financial statements for months of June and July presented and approved.

3. Presentation by Doctor Smith of county hospital problems in Kern County. Special committee appointed at 128th meeting instructed to arrange conference with all members of Kern County Medical Society and report to Council.

4. Requests from Doctor Pomeroy and Doctor Pinkham for assistance of California Medical Association in their exhibits at the fairs to be held at Pomona and Sacramento. Reply authorized.

5. Revision of Clinical and Research Prize rules reported upon by Doctor Kelly. Secretary and chairman of Executive Committee authorized to incorporate changes suggested and present to Council for approval.

6. Letter from Doctor Leland, Director of the Bureau of Medical Economics of the American Medical Association on medical economics questionnaire presented. Reply authorized suggesting that information be better gleaned from primary sources and compilation of results sent to county societies.

7. Letter regarding establishment of Criminologic Institute in states in which none now existed received

from Bureau of Legal Medicine and Legislation. Reply authorized.

8. Presentation and approval of editorial on the provision of the Medical Practice Act, as modified.

9. Reply to letter of J. F. Doughty, M. D., re exemption of the compensation laws in agricultural industries by posting of notices, referred to general counsel for reply.

10. Letter from the Bureau of Legal Medicine of the American Medical Association regarding the "contract" between the Los Angeles Medical Society and the Metropolitan Water Company discussed. Doctor King presented the letter of the Los Angeles County Association to the Metropolitan Water Company and stated that this was in no sense a "contract" but an agreement regarding the fees to be charged by members of the Los Angeles County Medical Association in their treatment of employees of the Metropolitan Water Company. The secretary was instructed to write Doctor Woodward for the source of his information.

11. Letter regarding ownership of x-ray plates referred to general counsel.

12. Consideration of basis of complaint in action against a member of the California Medical Association. Decision that action on which suit was based was not included among any of the classes of cases which are grounds for defense by the counsel for the medical society of the State of California. Secretary authorized to so inform member.

13. Discussion was had regarding the services of the Placement Bureau. The general counsel was requested to formulate a statement to cover the situation.

14. Report by secretary on advertising for month of September.

15. Information regarding insurance matters presented. Legal counsel authorized to secure further information and report to Council.

16. Overdue advertising account of American surgical sales referred to general counsel with power to act.

17. Progress report by general counsel on hospital matters.

18. Adjournment.

COMPONENT COUNTY SOCIETIES

CONTRA COSTA COUNTY

A most interesting business and scientific meeting was held by the Contra Costa County Medical Society at Martinez on October 13, with Dr. W. A. Rowell presiding.

The scientific part of the program was ably handled by Doctors Paul Michael and Fletcher Taylor of Oakland. Doctor Michael gave a brief but complete review of endometrial hyperplasia, covering the etiology, history, pathology, differential diagnosis, diagnosis, and treatment of this condition. His paper was illustrated by appropriate lantern slides. The subject of "Nonsurgical Abdominal Pain" was presented by Doctor Taylor in a graphic manner, through the review of unusual clinical cases encountered in his private practice. The practical applications of his talk were very instructive. Much discussion of these two papers was engaged in by a large and appreciative audience.

The chairman of the Medical Economics Committee, Dr. J. M. McCullough, reported favorably on the publication of educational articles in a Richmond newspaper. The secretary was instructed to issue a letter of approval to the newspaper, which had requested the society to pass upon the ethical standards of these articles. During a lengthy discussion of the Contra Costa County preventorium, known as Sunshine Camp, many constructive ideas were submitted to promote better cooperation between the profession at large and the directing personnel of the camp. Dr. H. G. Trimble of Oakland, medical director of this camp, spoke at length on the requirements of the individual cases for eligibility to the camp and particularly stressed the importance of follow-up work after these cases have returned to their respective

locations. The work of the County Health Department in this respect was commended and the hope was expressed that better control could be obtained from the western end of the county. The question of urging the Board of Supervisors to provide hospital facilities for county patients in emergency cases throughout the county again came up for a lively discussion. To the original committee appointed to investigate this matter representation from the eastern end of the county was added in the person of Dr. J. A. Beard of Martinez and Dr. M. L. Stauffer of Pittsburg. It was indicated that the supervisors would listen favorably to any reasonable request from the County Medical Society, and the committee was instructed to draft necessary resolutions to that effect. These are to be presented to the membership at the next meeting. It was decided to hold the annual business meeting next month with the election of officers and the annual banquet early in December.

This was the best attended meeting ever held in Martinez. Refreshments were served by the nursing staff of the County Hospital. The Woman's Auxiliary was entertained at the home of Mrs. I. O. Church of Martinez.

L. H. FRASER, *Secretary*.

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MONTEREY COUNTY

The Monterey County Medical Society met for its monthly meeting on October 9, 1931, at the Monterey Clinic, 576 Hartnell Street. Dinner was served at 6:45 p. m. At 8:15 p. m. twenty-five members and guests listened to a masterly presentation on "The Recent Advances in Poliomyelitis" by Dr. Edwin Schultz, professor of bacteriology at Stanford University. Moving pictures of experiments on monkeys illustrated part of this profoundly interesting paper. Active discussion followed the talk.

MAST WOLFSON, *Acting Secretary*.

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SAN BERNARDINO COUNTY

The first meeting for the ensuing year of the San Bernardino County Medical Society was held at the County Hospital on October 6.

Dinner was served at 7 p. m.

The meeting was called to order by the president. There were eighty-two members and guests present.

After reading and approval of the minutes, a letter from Dr. John Graham of Barstow was read and the matter at hand was explained by the president and further developed by Doctor Graham. After a brief discussion it was explained that the Council had turned the matter over to the medical advisory board of the County Hospital.

The new county health officer, Dr. E. B. Godfrey, was then introduced.

A motion was made by Dr. C. G. Hilliard and seconded by Dr. S. Richards that the dues for the ensuing year be fixed at \$15.

The president, Dr. H. G. Hill, then briefly reviewed the activities of the past year and delivered a brief eulogy about deceased members, those being Doctors G. G. Moseley, C. P. Engel, and M. J. Hart.

Dr. Philip Savage then made a short statement regarding the opening of the Sisters' Hospital in San Bernardino.

The list of the newly elected and appointed officers was then read and the secretary was instructed to cast a ballot, which was done.

Dr. George Landon, the new president, was then inducted into office by the retiring president, Dr. H. G. Hill, and from then on Doctor Landon took charge.

The address of the retiring president was then entered upon, his subject being "The Physician and the Care of the Public." Following this the speaker of the evening, Dr. Carl R. Howson, president of the Los Angeles County Medical Society, delivered an address entitled "The Future of Medicine." The subject was then thrown open to a general discussion, which was led by the president.

Thanks were extended to the speaker of the evening after which the meeting was adjourned at 10 p. m.

The following is a list of officers elected for the coming year for the San Bernardino County Medical Society:

Officers—President, George Landon, San Bernardino; first vice-president, Fred Moor, Loma Linda; second vice-president, A. L. Weber, Upland; secretary-treasurer, E. J. Eytinge, Redlands.

Board of Councilors—Philip Savage, San Bernardino; C. L. Emmons, Ontario; D. B. Williams, Colton; H. G. Hill, Redlands; J. H. Evans, Highland.

Delegates—Philip Savage, San Bernardino; D. B. Williams, Colton; D. C. Mock, Redlands.

Alternates—Fred Moor, Loma Linda; K. L. Dole, Redlands; C. L. Emmons, Ontario.

E. J. EYTINGE, *Secretary*.

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SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held in the St. Francis Hospital on Monday evening, October 12, with President Ullmann in the chair.

After reading and approval of the minutes of the previous meeting, with the consent of the society the president reversed the order of business.

The transfer card of Dr. Marion O. Hooker, 224 East Mission Street, Santa Barbara, from the San Francisco Medical Society was read, and also the application for membership of Daniel M. Clark, 1520 Chapala Street, Santa Barbara. Upon ballot both applicants were unanimously elected into membership.

An invitation from Dr. August L. Mollath of Santa Maria, secretary of the staff of the Santa Maria Hospital, was read, inviting the society to hold the November meeting at Santa Maria at the Santa Maria Club. After discussion it was unanimously carried that the November meeting be held in Santa Maria and that the Santa Maria committee provide the program.

The president then appointed a Resolutions Committee, consisting of Dr. Rexwald Brown (chairman), Dr. W. D. Sansum, and Dr. M. Thorner.

Dr. E. L. Markthaler was appointed chairman for the Welfare Board in the place of Dr. John B. Manning, deceased.

The scientific program was opened by Dr. Ira M. Bartle of San Luis Obispo, who gave a most interesting talk on "Actinomycosis," illustrated by lantern slides. The paper was then discussed by Doctors Geyman, Sansum, and Henderson.

Doctor Profant then gave a paper on "The Management of Mastoiditis and Petrositis," illustrated with lantern slides.

Dr. Daniel M. Clark then followed with an interpretation of the roentgen pictures shown by Doctor Profant. Doctors Lewis, Means, and Hunt then discussed the paper.

WILLIAM H. EATON, *Secretary*.

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STANISLAUS COUNTY

The regular meeting of the Stanislaus County Medical Society was held on October 9 at Hotel Hughson, Modesto.

After reading and approval of the minutes of the September meeting, a report from the Hospital Committee, headed by Doctor McPheeters, was given regarding the payment by the county to private hospitals for first-aid service rendered by them. Doctor McPheeters stated he did not feel that the county would pay for first-aid services, as the doctors were free to send such cases to the County Hospital.

Motion made and carried that this committee be discharged, the work assigned to it having been completed.

A letter was read from the Stanislaus County Nurses' Association regarding the opening of an official nurses registry in Modesto. Motion made and carried that the secretary secure a copy of the by-laws regarding the requirements of a nurses' registrar.

On motion, duly seconded and carried, Doctor Roscoe of Newman was accepted as a member of the Stanislaus County Medical Society.

Dr. Joseph Catton gave a very interesting talk on "Medical Aspects of Recent Murder Cases."

DONALD L. ROBERTSON, *Secretary*.

VENTURA COUNTY

The regular monthly meeting of the Ventura County Medical Society was held on September 8 at the Ventura County Clinic building. The meeting was called to order by Vice-President Smolt, and the minutes of the previous meeting read and approved.

Members present were: Doctors Achenback, Bardill, W. S. Clark, Hendricks, Smolt, Welch, Bianchi, Shore, and Armitstead.

The meeting consisted solely of business of the society. There was some discussion as to the scientific programs for the meetings and, after some discussion, the motion was put by Doctor Welch that two members be appointed to be responsible for the program for the remaining months of this year. The motion was seconded by Doctor Clark, and carried. Thereupon Doctors Clark and Smolt were appointed for the month of November.

R. B. ARMITSTEAD, *Secretary*.

CHANGES IN MEMBERSHIP

New Members

Alameda County—William O. French, Jr., Louise Linscott Hector, La Fayette Parkinson Monson, Edmund Henry Padden, Margaret Sisson, Edith Elizabeth Thompson, Alvin Pontus Wold, William F. Woller.

Contra Costa County—Fred Porter Nevius, Melvin Lackner Stauffer.

Kern County—Arthur George Elvin.

Los Angeles County—

Edgar Aasland	Roy Carlyle McLaughlin
John J. Baker	Roland Clifford Nelson
Thomas Cottrell Brooks	Lloyd E. Rogers
Clair Peter Cosgrove	W. G. Scanlon
Alvin George Ford	Reynolds D. Smith
Louis Leonard Gewertz	Frederic N. Tyroler
William Merriott Gibbs	Isaac Jack Vidgoff
Frederick Charles Hagar	Hubert Turner Wilkin
Robert B. Hope	Louis K. Zimmer
Greenshaw Mandel	

Marin County—Herbert N. Every.

San Bernardino County—Gordon L. Helstrom.

San Diego County—Carl F. Birkenstock.

San Francisco County—Anthony A. Ferrante.

Resignations

Edna P. Burgeson, from San Francisco County.

Transfers

Roelf Barkema, from San Diego to San Bernardino County.

Ambrose E. Edgerton, from Kern to San Francisco County.

William H. Lawler, from Lassen-Plumas to Monterey County.

Francis P. O'Hara, from San Francisco to San Diego County.

Thomas J. Rankin, from San Diego to San Bernardino County.

Charles E. Sisson, from Napa to San Diego County.

Deaths

Coleman, Herbert Rockwood. Died at San Francisco, September 7, 1931, age 41 years. Graduate of University of Kansas School of Medicine, Lawrence, Kansas City, 1917. Licensed in California, 1920. Doctor Coleman was a member of the Napa County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Donnelly, Edward Francis. Died at Napa, September 20, 1931, age 69 years. Graduate of Cooper Medical College, San Francisco, 1894. Licensed in California, 1894. Doctor Donnelly was a member of the Napa County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Hamilton, Jo. Died September 19, 1931, age 57 years. Graduate of Cooper Medical College, San Francisco, 1903. Licensed in California, 1903. Doctor Hamilton was a member of the Alameda County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

Keller, Peter Martin. Died at Glendale, October 1, 1931, age 58 years. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1899. Licensed in California, 1915. Doctor Keller was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

Geoffrey Joseph Fleming, M. D.

1873-1931

Dr. Geoffrey Fleming, well-known urologist of Ontario, California, died on October 9 of pneumonia at his home, 231 Armsley Square.



GEOFFREY JOSEPH FLEMING

Doctor Fleming was graduated April 19, 1898, from the University of Illinois and on December 1 of that year was made a member of the house staff of the Cook County Hospital, Chicago, of which city he was a native. Later, as a mark of his high standing and ability, he was admitted to membership in the American College of Surgeons.

Doctor Fleming had been a resident of Ontario for the last sixteen years, having practiced previously in Spokane, Washington, in 1915. During the course of his professional work here, he endeared himself to the hearts of hundreds.

Doctor Fleming was a member of the San Bernardino County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Doctor Fleming is survived by his widow, Mrs. Harriet Sonn Fleming, president of the California State Nurses Association, and one daughter, Mrs. Dorsey K. Glover of Upland.

The sympathy of Doctor Fleming's colleagues and friends is extended to his wife and daughter.

Palmerston Cornick Campbell, M. D.
1868-1931

Dr. P. C. Campbell, our esteemed friend and co-worker, has joined the innumerable caravan in answer to the call of our Great Healer above.

He was taken from us in early middle life when he had just arrived at the point where he could enjoy the fruits of a well-earned career.

Doctor Campbell was known among his professional brethren as an honorable worker in the field of medicine—earnest, devoted, conscientious, kind-hearted, and skillful. His life was upright and manly throughout. A better example of the good physician it would be difficult to find. Quiet and unostentatious in demeanor, he compelled the respect of all who knew him.

His death was sudden, quiet, and in the manner in which he lived.

Doctor Campbell was sixty-three years of age at his death. He was born in Suisun, California, went through the schools there, attended Toland Medical College (now the University of California), and graduated in 1890 from St. Joseph's Medical College in Missouri. He first engaged in practice in Vacaville, near where he was born, joined the gold rush to Alaska in 1898, returned and returned to practice in Richmond in 1900, where he has lived continuously with his family until his death. He leaves a wife, three daughters and two sons to mourn his loss. He was known to be a good husband and a kind father.

In his life he was honored and respected by all who knew him. May we all leave a record as worthy.

C. R. BLAKE, M. D.

CANCER COMMISSION OF THE CALIFORNIA MEDICAL ASSOCIATION

With the creation of a permanent Cancer Commission by the House of Delegates at the San Francisco meeting,* the California Medical Association undertook the control of public health work in the field of cancer, heretofore carried on only by outside agencies. The functions of the Commission outlined by the House of Delegates are to be the encouragement of (1) the provision of adequate postgraduate medical education in the early diagnosis and treatment of cancer, (2) the provision of better clinical facilities for the care of cancer patients, (3) the extension and coordination of research work on cancer.

All of the members of the newly appointed commission felt that the aim of its first work should be the promotion of a better agreement among members of the medical profession on the correct handling of cancer patients or patients suspected of having cancer. Experience has shown that there are two periods of delay—one between the time when symptoms first appear and the time when a physician is first consulted, and another between the time when a physician is first consulted and the time when adequate diagnosis is made and treatment instituted. It is the second period of delay which is the responsibility of the doctor, and the medical profession should prepare itself to cut this delay to a minimum before further public education is carried on.

As its first work of organization, therefore, the Commission has requested a large group of surgeons, pathologists, radiologists, internists, and specialists to serve on a committee of "Professional Information and Medical Education," divided into subcommittees on various types and locations of cancer. Each subcommittee has been requested to survey its particular field and prepare a statement of the facts of early symptomatology, of correct methods of diagnosis and of adequate treatment procedures which it feels can and should be accepted by the medical profession at the present time. It is intended to submit each of these statements to the entire personnel of the large

committee, including a broadly constituted Committee of Reference, for criticism and suggestions.

It is inevitable that in a field of advancing knowledge disagreement will be encountered. When, for instance, two methods of treatment of a given type of cancer are widely accepted, both may be laid down as acceptable in the committee statements. Care will need to be exercised to avoid discouragement of experimental advance by an attempt to fix permanent standards on a basis of present knowledge; but certainly some facts have been conclusively established by the experience of the world up to the present time, and, such as they are, these facts should be known and accepted by every doctor who deals with cancer. Nothing is to prevent revision of our ideas in the future on the basis of new facts or experience.

Having collected and correlated the fundamentals of diagnosis and treatment of cancer upon which we should all agree, other committees—committees on "extension courses"—will be entrusted with making this material readily available to every physician in California, through the columns of CALIFORNIA AND WESTERN MEDICINE and by other printed matter, through undergraduate and postgraduate special courses and lectures, through county medical societies, etc. The Commission will report the progress of its work and arrange for the preparation of short articles on cancer in a special column of CALIFORNIA AND WESTERN MEDICINE from month to month.

Headquarters for the Commission's work have been established in connection with the California Medical Association offices at 450 Sutter Street, San Francisco.

The personnel of the Cancer Commission is as follows:

Charles A. Dukes, chairman; Lyell C. Kinney, vice-chairman; Alson R. Kilgore, secretary; Harold Brunn, William Ophuls, Henry J. Ullmann, Orville Meland, A. Herman Zeiler, and Clarence G. Toland.

Following is a list of chairmen and secretaries of committees so far organized. Note of further appointments will appear from time to time in this column:

Committee on Professional Information and Medical Education—Emile Holman, general chairman; Otto H. Pflueger, executive secretary.

Subcommittees on Extension Courses—Northern California: Zera E. Bolin, chairman; J. Homer Woolsey, vice-chairman; F. H. Rodenbaugh, secretary. Southern California: Harlan Shoemaker, chairman; J. A. Pollia, vice-chairman; C. T. Sturgeon, secretary.

Radiology Committee—William E. Costolow, chairman; R. G. Taylor, secretary.

Pathology Committee—Charles L. Connor, chairman; Robert A. Glenn, secretary.

CLINICAL SUBCOMMITTEES

1. *Breast Tumors*—Lemuel P. Adams, chairman; George D. Maner, secretary.

2. *Skin and Mouth Tumors*—H. Sutherland Campbell, chairman; H. J. Templeton, secretary.

3. *Gynecological Tumors*—Edward N. Ewer, chairman; Alice F. Maxwell, secretary.

4. *Genito-Urinary Tumors*—Charles P. Mathé, chairman; George Reinle, secretary.

5. *Connective Tissue Tumors*—Emmet Rixford, chairman; J. A. Pollia, secretary.

6. *Bone Tumors*—Edwin I. Bartlett, chairman; Sylvan L. Haas, secretary.

7. *Gastro-Intestinal Tract Tumors*—J. Homer Woolsey, chairman; R. T. Sutherland, secretary.

8. *Rectal Tumors*—W. H. Kiger, chairman; Dudley Smith, secretary.

9. *Eye, Ear, Nose, and Throat Tumors*—Dewey R. Powell, chairman; Frank S. Baxter, secretary.

10. *Chest Tumors*—Frank S. Dolley, chairman; Selling Brill, secretary.

11. *Nervous System Tumors*—Howard Fleming, chairman; F. L. Reichert, secretary.

ALSON R. KILGORE, Secretary.

* See June 1931 California and Western Medicine, page 432 (Resolution No. 2) and page 436 (IX, b, Resolution No. 2); and July 1931 California and Western Medicine, page 60 (Item 19).

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION*

News Notes

Auxiliary Department in Bulletin of American Medical Association.—Mrs. Walter Jackson Freeman of Philadelphia, national president-elect, went to Europe the first of August expecting to return the last of September, but has been detained in Munich indefinitely by the illness of her son. However, Mrs. Freeman is taking care of her department in the *Bulletin of the American Medical Association* for October.

Value of Bulletin of the American Medical Association. Every physician who receives the *Journal of the American Medical Association* also receives the monthly Bulletin, which carries national Auxiliary news. Each Auxiliary member should read the Bulletin. Anyone may subscribe for it for fifty cents per year.

The Kentucky Auxiliary.—Our national president, Mrs. A. B. McGlothlin, attended the annual meeting of the Auxiliary to the Kentucky State Medical Society at Lexington, Kentucky, September 7-10. She reports the following interesting features of that Auxiliary.

Kentucky has a standard of excellence for her component auxiliaries. Points of excellence are acquired for various attainments, such as the study of the state medical and health laws, the use of the national Auxiliary study programs, participation in the Jane Todd Crawford Memorial, review of each auxiliary of Gossett's "What the Public Should Know About Childbirth."

In Kentucky, each month, from four broadcasting stations a ten-minute health talk is given. Various physicians of the State Medical Association are selected to give these talks.

The Kentucky Auxiliary promoted a contest, carried on in ten counties, in which a prize was given to the school boy or girl writing the best essay on the value of a county health unit.

Value of a County Health Unit.—The value of the county health unit is emphasized by the New York State Health Commission reporting on the health needs of that state which require legislative action before further progress can be made. The first item of the program is "A state-wide system of county health departments (the county health unit) with full-time health officers (to be required by law)."

If your Auxiliary is not informed of the nature and value of the county health unit, devote a meeting to the use of the study program on that subject supplied by the national Auxiliary.

Tennessee Auxiliary Radio Health Talk.—In Tennessee the State Auxiliary promotes a radio health talk every week, securing the talk from the American Medical Association in Chicago and arranging with some physician to give the talk.

American Medical Association Radio Talks.—In this connection it is worth knowing that the American Medical Association will supply five-minute radio talks on seventy-two different health topics.

Florida Journal Report of National Auxiliary.—The Woman's Auxiliary department in the Florida state journal has given its readers recently, in two con-

secutive months, interesting reports of the Philadelphia convention. One dealt with the convention at work, and the other with the convention at play. Such reports help to create an interest in the Auxiliary as an organization with national significance.

Organization in Texas.—The president of the Texas Auxiliary, Mrs. H. R. Dudgeon, reported in Waco, July 14, that Texas had forty-three organized and working auxiliaries, and more coming. A good organization record to emulate!

Four Views of National Auxiliary.—To give the Auxiliary women of Virginia a real knowledge of our national organization, the president, Mrs. J. Allison Hodges, is presenting serially "A Panoramic View of the Woman's Auxiliary to the American Medical Association in Four Articles." These admirable articles were prepared last year for Mrs. Hunsberger's administration as follows: The eastern district, Mrs. Wayne Babcock; north central district, Mrs. James Blake; southern district, Mrs. C. W. Garrison; western district, Mrs. James F. Percy.

Auxiliary Service to Medicine Through Work in Lay Organizations.—In his message to the Woman's Auxiliary to the Colorado State Medical Association, Dr. E. S. Judd, president of the American Medical Association, reminds the women of the opportunities for service to scientific medicine through their membership in lay organizations. He quotes the president of the Maine Medical Association as saying a systematic propaganda was being carried out for the purpose of promoting irregular medical practices. This is done by sending representatives to women's clubs and other organizations to disseminate the information. "If women's auxiliaries," says Doctor Judd, "will assume the responsibility of helping the members of their clubs, and also the Parent-Teacher associations keep informed regarding the proper medical practices, they could perform a great service to their communities."

Legislative Service Rendered by Colorado Auxiliary.—Colorado is one state in which distinct service in medical legislation has been rendered by the Woman's Auxiliary to the State Medical Association.

Suggestions for Programs.—The Missouri program chairman suggests: What Is New in Medicine? In Surgery? In Anesthesia?

In California the program chairman, Mrs. F. E. Coulter, suggested two estimable eight months' programs for county auxiliaries. The first is for Auxiliaries in counties where a County Health Unit exists. The second is for Auxiliaries in counties where no County Health Unit exists.

Since they are not copyrighted, we are paying Mrs. Coulter the compliment of passing them on:

FIRST SET

- September—Why an Auxiliary—Speaker, if possible, a state officer, preferably the president.
- October—Working Principles of Our Own County Health Unit—The county health officer.
- November—Common Defects in Children or Contagion and Immunization—Member using National Auxiliary material.
- December—Teeth and Their Relation to Health—School dentist.
- January—What Are We Doing for the Physically Underprivileged Child—Selected speaker.
- February—Mental Hygiene—Local psychiatrist or selected speaker.
- March—(a) Book Review: "The Human Mind," Menninger—Auxiliary member. (b) What Our County is Doing for the Mentally Ill—Selected speaker.
- April—(a) Book Review: "Biography of the Virgin Mind," Dakin—Auxiliary member. (b) Our State Health Laws—Selected speaker.

*As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Louis H. Dyke, Chairman of Publicity and Publications Committee. Brief reports of county auxiliary meetings will be welcomed by Mrs. Dyke and must be sent to her before publication takes place in this column. For lists of state and county officers see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes.

SECOND SET

September—Same as in first set.
 October—Advantages of County Health Unit—Member using National Auxiliary material.
 November—Common Defects in Children—Member using National Auxiliary material.
 December—Contagion and Immunization—Member County Medical Society.
 January—Local Health Problems—Round table.
 February—What Our State Is Doing for the Mentally Ill—A superintendent of State Hospital.
 March—Book Review: "The Human Mind, Menninger—Auxiliary member.
 April—Book Review: Biography of the Virgin Mind," Dakin—Auxiliary member.
 Our State Health Laws—Selected speaker.

In Los Angeles the October program for the Woman's Auxiliary presented:

How Los Angeles County Meets the Problem. Brief talks by: Dr. W. A. Hodges, La Vina Sanatorium; Dr. Mumford Smith, Barlow Sanatorium; Dr. William H. Bucher, Olive View Sanatorium; Dr. Karl Fischel, Jewish Sanatorium, Duarte.
 How Much Shall the Doctor Charge?—Dr. John V. Barrow.

The programs of all meetings should include as a "roll call" medical current events, new discoveries, accomplishments, and happenings.

ELLA CLARK DYKE,
 Chairman Publicity and Publications Committee.

NEVADA STATE MEDICAL ASSOCIATION

R. P. ROANTREE, Elko..... President
 A. C. OLMSTED, Wells..... President-Elect
 E. E. HAMER, Carson City..... First Vice-President
 W. H. FROLICH, East Ely..... Second Vice-President
 HORACE J. BROWN, Reno..... Secretary-Treasurer
 S. K. MORRISON, W. L. SAMUELS..... Trustees

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The Washoe County Medical Society met in the State Building, Reno, September 8, at 8 p. m. In the absence of the president, Doctor Walker presided.

The cinema on "Spinal Anesthesia," kindly furnished by the San Francisco branch of the Metz Laboratories, was shown. Spinocain and novocain products with their effects upon the sensory nervous system when injected into the spinal canal were beautifully differentiated. The technique of administering both products, also the management of the operated patients were graphically shown by the cinema. The pictures were highly instructive.

Next followed an informal talk by Doctor Schofield of Hobart Mills on his recent experience as a medical student in Vienna. The first part of the talk was devoted to the historical and cultural conditions of the city. Then Doctor Schofield spoke of the American Medical Association there and the means of obtaining entrance to courses. The number of students has greatly diminished in the last few years, owing to the world-wide financial depression. The clinics having the greatest number of students were the ear, nose and throat, and urological clinics. The superabundance of material presented for study was, in the speaker's opinion, the greatest reason for foreign medical attendance. All lectures could be heard in English, and the fees for same were moderate.

The talk was greatly enjoyed and we hope for more of the same kind in the future.

There were twenty-one doctors present.

The regular monthly meeting of the Washoe County Medical Society was held in the State Building on the evening of October 13, with Doctor Sullivan, vice-president, presiding.

After disposing of the usual routine Dr. G. R. McGee of Yerington gave an extemporaneous talk on Huntington's chorea. He exhibited a patient fifty-three years of age, male, who twelve years previously had developed the disease. The speaker differentiated between the usual chorea of children and adults, which is known as Sydenham's chorea and the type exhibited known as Huntington's chorea.

In the former disease it is mainly a neurosis with some underlying defect, frequently a heart lesion. Under proper supervision the Sydenham's chorea gets well. Dr. Irvin W. Long in 1863 was first to call attention to the latter type of chorea and termed it "chronic hereditary chorea." But Huntington of Ohio in 1872, and his grandfather, both physicians, had observed this malady run through several generations and Doctor Huntington was the first to characterize the disease as assuming three conditions, viz., heredity, psychic causes, and late appearance.

Doctor McGee pointed out that the man exhibited alleged that his attacks dated from the witnessing of a suicide when he was forty-three years old.

However, Osborn traced the disease in a family through two centuries.

The pathological underlying cause is not clear. Some ascribe it to definite lesions of the corpora striata. It is incurable and usually terminates in dementia. The peculiar staccato speech and sharp, jerky convulsive movements characterize the disease from other types of nervous disease.

Dr. M. A. Walker of Reno gave the society a fine travelogue on his recent trip to Japan and Hawaii. While in Japan Doctor Walker visited several hospitals and had opportunity to observe the Japanese physicians and their methods. In Honolulu Doctor Walker was impressed by the Thursday morning conference held in the Queen's Hospital. The conference was in the shape of an informal discussion, not on the dead, but on the progress of cases in the hospital.

Both papers were well received, and the thanks of the society were tendered the speakers.

THOMAS W. BATH, Secretary.

UTAH STATE MEDICAL ASSOCIATION

R. A. PEARSE, Brigham City..... President
 P. M. McHUGH, Salt Lake City..... President-Elect
 L. R. COWANS, Salt Lake City..... Secretary
 J. U. GIESY, Kearns Building, Salt Lake City..... Associate Editor for Utah

UTAH STATE MEDICAL ASSOCIATION ANNUAL SESSION OF 1931

PROCEEDINGS OF THE HOUSE OF DELEGATES *

First Meeting of the House of Delegates

Held at Stewart Building, University of Utah, Salt Lake City, Utah, Wednesday, September 9, 1931, at 12:15 p. m.

I. **Call to Order.**—The president, William L. Rich, M. D., called the meeting to order.

* * *

II. **Roll Call.**—The secretary called the roll and declared a quorum to be present.

* * *

III. **Reading of Minutes.**—On motion, duly made, seconded and unanimously carried, reading of the minutes was dispensed with, inasmuch as the entire proceedings were published in full in CALIFORNIA AND WESTERN MEDICINE.

*Papers by Belle A. Gemmell, M.D., and O. F. McShane, Esq., will be printed in subsequent issues of California and Western Medicine.

IV. Presentation of Reports:

1. *Report of the President* was given by William L. Rich, M. D.
2. *Report of the Secretary*.—The report of Secretary Critchlow will be found at the end of these minutes.
3. *Report of the Treasurer*.—The report of Treasurer Raley will be found at the end of these minutes.

President Rich explained that all reports as given were handed to the Reference Committee and would be reported on by that committee at the time it made its report, so that any recommendations offered in the reports would not be discussed until the Reference Committee had made its recommendations.

4. Reports of the Committees and Councilors:

- (a) *Report of Councilor from Second District*, J. Z. Brown, M. D.
- (b) *Scientific Committee*.—Report was made by M. M. Critchlow, M. D.
- (c) *Committee on Public Policy and Legislation*.—Report was read by A. C. Callister, M. D.
- (d) *Committee on Publications*.—Report was presented by J. U. Giesy, M. D., Chairman.
- (e) *Committee on Medical Defense*.—Report was presented by J. P. Kerby, M. D., Chairman.
- (f) *Committee on Medical Education and Hospitals*.—No report rendered, Clarence Snow, M. D., Chairman, not being present.
- (g) *Committee on Medical Economics*.—No report rendered, T. B. Beatty, M. D., Chairman, not being present.
- (h) *Committee on Public Health*.—The report was presented by Ezra C. Rich, M. D., Chairman, and is printed at the end of these minutes.
- (i) *Committee on Military Affairs*.—No report was rendered, the chairman, H. P. Kirtley, M. D., not being present.
- (j) *Report of Committee on Necrology*.—J. U. Giesy, M. D., Chairman, reported the death of three members: Mark Brown, M. D.; Ira A. E. Lyons, M. D.; and Chauncey M. Benedict, M. D.
- (k) *Committee on Credentials*.—Report was made by Fred R. Taylor, M. D., Chairman.
- (l) *Report of Delegate to American Medical Association*.—This report will be found at the end of these minutes.

V. **New Business.**—President Rich then called for miscellaneous business. Dr. D. C. Budge of Logan asked when the items calling for action in the various reports would be discussed. President Rich stated they would be embodied in the report of the Reference Committee, which would report to the House of Delegates tomorrow.

Invitation to Meet at Ogden in 1932.—In behalf of the Weber County Medical Society, E. P. Mills, M. D., of Ogden invited the State Association to hold its annual meeting in Ogden in 1932.

VI. **Adjournment.**—On motion, duly made, seconded and carried unanimously, meeting adjourned to meet again at the close of scientific session on Thursday, September 10, 1931.

Second Meeting of the House of Delegates

Held in Stewart Building, University of Utah, Salt Lake City, Utah, September 10, 1931, at 12:45 p. m.

I. **Call to Order.**—President Rich called the meeting to order at 12:45 p. m.

II. **Roll Call.**—The secretary called the roll and declared a quorum present. Salt Lake County Society called attention that "Fred Stauffer," as printed in program, should read "Leaver Stauffer." Leaver Stauffer was seated as a delegate.

III. **Reading of the Minutes of the First Meeting.** Minutes of meeting of Wednesday the 9th were read and approved.

IV. **Place of 1932 Meeting.**—Telegram from the Ogden Chamber of Commerce was then read, as follows: "Dr. William Rich, President Utah State Medical Association: Greetings to members and delegates of Utah State Medical Association in convention. We are pleased to endorse the invitation extended by Ogden Chapter to you to hold your next annual convention in Ogden, and will pledge the Ogden Chamber of Commerce to assist you in every way to make it a banner one in the annals of your association."

It was moved and seconded that the 1932 annual session be held at Ogden. Motion was unanimously carried.

V. **Presentation of Reports Not Read at First Meeting.**—President Rich then called for those reports that had not been presented at the previous meeting:

- (a) Chairman of the Council—E. R. Dumke, M. D., Ogden: I wish to report that in my district everything was done very nicely.
- (b) Councilor of Third District—William T. Elliott not being present, no report was given.

VI. **Resolution on Procedures in Postmortems.**—The following resolution was then read:

Resolved, That the members of the Utah State Medical Association cooperate with the Utah Morticians Association in the matter of postmortems. Further, that for safety and uniformity, written postmortem permission be first secured upon the approved form; that before performing such postmortem examination the family funeral director shall be consulted with respect to the use of a nonhardening embalming fluid for arterial injection.

That the following form be used:

The undersigned relative (or friend, if no relative) of _____ of _____, who died at _____ (name of deceased) _____ (residence) _____ (place of death) _____, Utah, on the _____ day of _____, 19____, hereby gives permission for a post-mortem examination on the body of said deceased at _____, and the taking of such samples (hospital or mortuary) for tests as are deemed advisable. It is understood that prior to such postmortem examination the family funeral director shall be consulted with respect to the use of a nonhardening embalming fluid for arterial injection.

Name _____ (Relative of deceased)
Address _____
Name _____ (Relationship to deceased)
Address _____

Moved by F. M. McHugh, M. D., seconded by Mazel Skolfield, M. D., that the foregoing resolution regarding postmortems, including the form to be used therefor, be adopted. Carried unanimously.

VII. **Report of the Reference Committee.**—The report of the Reference Committee was read by E. F. Root, M. D., Chairman. On motion duly made and seconded a rising vote on the report of the Reference Committee, which included a raise in dues from \$5 to \$7.50, was taken and the report of the Reference Committee was adopted, and the dues raised to \$7.50.

VIII. **Miscellaneous Business.**—The president then called for miscellaneous business.

(a) *Appointment of Utah State Medical Society Historian.*—On recommendation of Doctor Callister, the president appointed the editor, Doctor Giesy, as historian of the Utah State Medical Society to compile a history of medicine in Utah.

(b) *Incorporation of Paper by Doctor Gemmell in Minutes.*—On motion made and seconded it was voted there be incorporated in the report of the House of Delegates and appended thereto as part of this report the paper given by Dr. Belle A. Gemmell at the general session of the Association. Also that all the comments and other interesting items that followed the reading of her paper be included.

(c) *Status of Associate Membership.*—Doctor Critchlow stated that Doctor Bonar has a matter that should be brought up. At a meeting of the Salt Lake County Medical Society the matter of whether or not we should have associate members was discussed.

That society went on record as being of the opinion that our delegate to the American Medical Association should present the situation to the House of Delegates of the American Medical Association with a view of getting a ruling as to what the ethical practice of associate membership would be. We have men who are not M. D.'s but who are working along medical lines who would appreciate associate membership in the Utah State Medical Association.

Moved by Doctor Critchlow that our delegate to the American Medical Association be instructed to take this matter up according to the way it was taken up in the Salt Lake County Medical Society.

Motion was seconded and unanimously carried.

(d) *Regarding "Non-Service" Medical and Hospital Benefits to World War Veterans.*—Dr. E. D. Le Compte stated that he wished to refer to the report made by himself at the general session wherein was the following statement: "It was further resolved that each state medical association be requested to form a committee whose duty it will be to approach the state and local Legion posts throughout the country with a view to securing the adoption of this program by them."

Doctor Le Compte felt it was part of his work as your delegate to the American Medical Association to put these matters before the Utah House of Delegates. He moved that the House of Delegates appoint a committee to present to the local and state Legion posts the resolution adopted by the American Medical Association as follows:

That Congress be called upon to abandon the policy of rendering medical and hospital benefits to veterans of the World War with nonservice connected disabilities and to substitute therefor a plan of disability insurance benefits with the following provisions:

First: The creation of a bureau of disability insurance in the Veterans' Bureau as now constituted.

Second: The issuance of a disability insurance policy to each veteran with a disability benefit clause, as follows:

(a) The payment of a weekly cash benefit during a period of total disability; and

(b) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability; and

(c) Such other provisions as are necessary for the proper administration of the act.

President Rich stated he would refer this to the Committee on Public Relations for action—when that committee is appointed.

Dr. Le Compte stated that when this committee was ready to undertake this work that they come to him for more and further information.

(e) *Regarding a "Cancer Survey" of the State of Utah.*—J. P. Kerby called attention to the fact that Utah had had several surveys of conditions in this state arising from public health matters. Thus, Utah had had a goiter survey. He understood that the American Cancer Society would be very glad to make a survey in the State of Utah with a view of determining cancer in its various forms. This had been done in various states. Doctor Kerby proposed the following resolution:

Resolved, That the Utah House of Delegates go on record as inviting the American Cancer Society to make a survey of cancer conditions in Utah, at no expense to the Utah State Medical Association.

Motion was seconded and carried unanimously.

* * *

IX. Election of Officers.—President Rich then announced that the next order of business would be the election of officers. He appointed as tellers: O. J. LaBarge, M. D., and R. A. Pearse, M. D.

The following officers were elected:

President-elect, F. M. McHugh, M. D., Salt Lake.

First Vice-president, George Fister, M. D., Ogden.

Second Vice-president, J. G. McQuarrie, M. D., Richfield.

Third Vice-president, George H. Christy, M. D., of Vernal.

Secretary, Leland R. Cowans, M. D., Salt Lake.

Treasurer, F. H. Raley, M. D., Salt Lake.

X. Election of Councilors.—William T. Elliott of Helper was elected councilor for the Third District. President Rich then announced the officers for the coming year as follows:

President, R. A. Pearse, M. D.

President-elect, F. M. McHugh, M. D.

First Vice-president, George Fister, M. D.

Second Vice-president, J. G. McQuarrie, M. D.

Third Vice-president, George H. Christy, M. D.

Secretary, Leland R. Cowans, M. D.

Treasurer, F. H. Raley, M. D.

Councilor First District, E. R. Dumke, M. D.

Councilor Second District, John Z. Brown, M. D.

Councilor Third District, William T. Elliott, M. D.

Associate Editor, J. U. Giesy, M. D.

Delegate to American Medical Association, Edward D. LeCompte, M. D.

Alternate Delegate, Sol G. Kahn, M. D.

The new officers were thereupon escorted to the platform and introduced to the House of Delegates.

* * *

XI. Adjournment.—There being no further business the meeting adjourned.

WILLIAM L. RICH, M. D.,

President.

M. M. CRITCHLOW, M. D.,

Secretary.

Report of the Secretary

By M. M. CRITCHLOW, M. D.

The thirty-sixth annual meeting of the Utah State Medical Association was held in Salt Lake City on September 9, 10, and 11, 1930. There were 223 physicians registered at the Memorial House.

The following officers were elected and have served faithfully during the past year:

Officers—President, William L. Rich; president-elect, R. A. Pearse; treasurer, F. H. Raley; first vice-president, J. P. Kerby; second vice-president, L. H. Stookey; third vice-president, A. H. Aland.

Councilors—First district, E. R. Dumke; second district, John Z. Brown; third district, William T. Elliott.

Delegate to the American Medical Association—Dr. E. D. LeCompte.

Alternate delegate—Sol G. Kahn.

Your secretary has now served his third and last year. At the meeting last year (1930) we had 365 members and at present we have 363 members, represented by the counties as follows:

Boxelder County Medical Society.....	8
Cache Valley Medical Society.....	18
Carbon County Medical Society.....	14
Central Utah Medical Society.....	21
Salt Lake County Medical Society.....	221
Uintah County Medical Society.....	5
Utah County Medical Society.....	32
Weber County Medical Society.....	45

Salt Lake County has three associate members who are not members of the Utah State Medical Association.

It is with deep regret that we mourn the deaths of the following men:

Dr. Mark Brown, Ogden, September 1930.

Dr. I. A. E. Lyons, Salt Lake, March 29, 1931.

Dr. C. M. Benedict, Salt Lake, August 29, 1931.

It was decided to have the postgraduate course at the time of the state meeting and a very good course has been arranged.

During the year all the county societies, except Uintah, were visited by one or more of the officers of the Association. In the fall a meeting of Cache Valley, Boxelder, and Weber counties was held jointly at Brigham City at which Dr. William Bender of San Francisco was the principal speaker. In February Carbon County invited the whole state to a meeting in Price at which Dr. R. L. Dresel of San Francisco was the principal speaker. Also, in May of

this year Weber County invited the entire state to a meeting in Ogden at which Doctor Coffey was the speaker.

All of these meetings were highly successful, and it is hoped that more of these intersectional meetings will be held in the future.

The Council has had several meetings with the Industrial Commission of the State of Utah. Difficulties have been ironed out and every member of the State Association has been informed of the Commission's desires and have been requested to comply with their wishes.

The White House Conference on Child Welfare organized a state committee last spring, and your president, Doctor Rich, has been very active in organizing the medical profession of the state to carry on this work.

In February the State Medical Association broadcast health topics over the radio twice a week over KDYL, which continued until the end of June. Since then the broadcasts have been given over KSL, twice a week in the evenings, but at present have been discontinued because of inability to get a suitable time over that station. KDYL's time was given by the Clover Leaf-Harris Dairy and KSL's time was given by that station itself.

At a meeting of the state secretaries in Chicago last fall, the economic condition of the medical profession was discussed at great length. The most interesting paper was given by Dr. William H. Ross, ex-president of the Medical Society of the State of New York. He explained that a doctor has a dual occupation. First, his personal relationship to his patient. In other words, the practice of medicine in which his future is secure. Second, his responsibility in purely civic matters and his obligation to take part in public medical service and to give guidance to other organizations trying to deal with public health problems. The Medical Society of the State of New York has created a Public Relations Committee consisting of five men, all of whom have had considerable experience in matters of this kind. One new man is appointed and one taken off each year. There is also a Public Relations Committee in each county, whose duty it is to make a survey of the medical problems and also of the purely professional economic problems, and act in liaison capacity between the laity and the profession.

Time does not permit me to tell of the splendid achievements of this committee, but in view of the present economic disturbance in the medical profession it is recommended that a committee of five, preferably ex-presidents of the Utah State Medical Association, or men of experience in civic affairs, be appointed as a Public Relations Committee, one man to drop out and one to be reappointed each year, to study the economic conditions as they affect the medical profession, and report to the House of Delegates each year or to the Council as often as necessary, with their recommendations.

In the past the Utah State Medical Association has been fortunate in having men in the president's chair who have been natural leaders. However, with the present system of electing the president-elect, it is possible that this necessary quality cannot always be present. In the future, therefore, it is recommended that, regardless of the part of the state the man lives in or regardless of his hospital affiliations, the quality of leadership be the prime requisite in the choice of the president-elect, for it is very evident that there are dangerous times ahead and this quality will be very much in need.

Financial affairs of the Association are in a very critical condition. The activities of the Association have increased. The annual meetings have been more expensive without an appreciable increase in membership. During the past year a strong effort was made to increase the membership but the response was very feeble.

It is recommended that at this meeting the House of Delegates increase the state dues from five to seven and a half dollars (\$5 to \$7.50).

Your secretary wishes to express his appreciation to every member of the Association for the courtesy and cooperation they have extended him and the other state officers. Three years is a long time and I have enjoyed every minute of it, and it is my hope that the new secretary will enjoy the work as much as I have done and will be extended the same cooperation. I am not a candidate for reelection.

* * *

Report of the Treasurer

By F. H. RALEY, M. D.

Covering period from June 30, 1930, to and including August 31, 1931.

RECEIPTS

Cash in National Copper Bank, checking account, July 1, 1930.....	\$1,222.91
Additional receipts after June 30, 1930, from membership dues for 1930.....	\$ 115.00
From Component Society membership dues for 1931.....	1,800.00
From 1930 Banquet Committee.....	284.00
Rebate on president's reception.....	18.84
Borrowed from savings account.....	300.00
Total receipts	2,517.84
	\$3,740.75

DISBURSEMENTS

Three hundred and sixty-eight subscriptions to California and Western Medicine.....	\$1,466.00
Expenses incident to 1930 meeting.....	1,042.26
Allowance—Delegate to American Medical Association.....	150.00
Allowance to secretary of Utah State Medical Association.....	250.00
Allowance for secretary's amanuensis.....	140.00
Telephone and telegraph expenses.....	54.70
Premium on treasurer's bond.....	9.60
Flowers to deceased members' funerals.....	20.59
Printing and binding.....	99.15
Auditor's bill.....	79.64
Money advanced for 1931 session.....	75.00
Total	\$3,386.85
Balance	\$ 353.90
Less charge of one dollar for balance less than \$100 in November 1930.....	1.00
Balance in bank August 31, 1931	\$ 352.90

There are accumulated and unpaid bills to date amounting to \$239.52, including treasurer's salary for 1931.

It will be noted also that the \$300 borrowed from the savings account has not been returned to that account.

SAVINGS ACCOUNT

Balance in savings account.....	\$794.48
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HARLOW BROOKS FUND

This is composed of four one thousand dollar Utah Power and Light bonds (6 per cent)—series due May 1, 1922, bearing interest of \$240 per year.

This interest as paid is credited to savings account.

* * *

Report of the Committee on Public Health

By EZRA C. RICH, M. D., *Chairman*

A meeting of the Committee on Public Health was held December 28, 1930. There were present: Dr. Ezra C. Rich, Dr. J. U. Giesy, and Dr. M. M. Critchlow.

Doctor Critchlow reported that the only subject of importance to be brought before the committee was the broadcasting of medical subjects over the radio. KDYL had offered us time twice a week. After discussion of this matter Dr. J. U. Giesy kindly consented to take over the responsibility of this work and was asked to call in any members of the Association he would need to assist him, and to call for papers from all members of the Association on subjects he would think advisable, and also to obtain what material he was able to get from the American Medical Association.

Medical subjects were broadcast over KDYL twice a week from March until June, and over KSL from July until the present time, all under the direction of Dr. J. U. Giesy, Dr. M. M. Critchlow, and Dr. O. J. LaBarge.

This work has taken up a very great deal of time, and while the members of the profession have re-

sponded very well these papers needed to be edited and delivered, and too much credit cannot be given to Dr. J. U. Giesy, Dr. M. M. Critchlow, and Dr. O. J. LaBarge for their efforts in this work.

* * *

Report of Delegate to the American Medical Association

By EDWARD D. LeCOMPTE, M. D.

The American Medical Association returned this year, after an absence of thirty-three years, to Philadelphia, the city of its birth, where the first annual meeting was held in 1847. Philadelphia also gave to the Association its first president, Dr. Nathaniel Chapman. Yet in spite of this and Philadelphia's pre-eminence as one of the nation's medical centers, she has not been hostess to the Association since 1897. The reason, perhaps, lies in the fact that the city has been without a suitable building to accommodate the convention until the completion last June of the new Municipal Auditorium on Thirty-fourth Street, near the University of Pennsylvania. This splendid edifice was formally opened with the eighty-second annual meeting of the American Medical Association on the eighth of June. It is one of the few civic auditoriums in the country large enough to house the convention under one roof. The convention, which was one of the largest in point of attendance, with a registration of 7006, in the history of the Association, was adequately provided for in every way.

The technical exhibition, which is an outgrowth of the old commercial exhibit of a quarter of a century ago, occupied the main auditorium floor. This year it embraced practically the entire range of material things needed in the practice of medicine and has become more and more of an informative and educational nature. More than 180 firms exhibited.

What in recent years has come to be one of the most interesting features of the annual convention to the medical man is the scientific exhibit, which this year occupied an even greater floor area beneath the technical exhibition. Spectacular displays of every variety of pathology, demonstrations of bacteriology and histology, innumerable specimens of great interest to the medical man, and continuous moving pictures of operative procedures and technique make a large call on one's time at the convention.

The scientific session, in its various sections, offered more than three hundred papers on nearly every phase of medicine. It was proposed to have clinical programs in the place of some of these.

In the House of Delegates, under the speakership of its very capable and expeditious Dr. F. C. Warnshuis, some very interesting reports of the secretary and of the board of trustees and of the councils were presented.

The secretary reported that the Association now has more than 100,000 members of the 155,000 licensed physicians in the United States. Of this number about 65,000 are Fellows. The number of these had decreased somewhat during the year as a result of the depression.

In the addresses of the outgoing president of the Association, Dr. William Gerry Morgan of Washington, D. C., and of the new president, Dr. E. Starr Judd, much was said in regard to new headquarters to house the growing needs of the Association. It seems that the present headquarters at 535 North Dearborn Street in Chicago are fast being outgrown and that a building fund has already been started to soon erect new and adequate buildings either on the present site or elsewhere in Chicago, and some argument has been offered to move the headquarters to Washington, D. C. Doctor Morgan of that city said that while he had weighed the matter carefully he believed that the geographical center of the country still offered the better place, as it always had, but he deemed it highly advisable that the permanent office of the chief officer of the Bureau of Legal Medicine, Dr. William C. Woodward, should be in Washington, at least during the periods when our national legislature is in session.

President Judd spoke of the immediate need of a new headquarters building and of some added features like a great medical museum and a central scientific exhibit to be a permanent part for the use of the medical profession.

Doctor Judd observed that "those who attended the meetings of the White House Conference must have been impressed with the fact that so few physicians were present. While the profession welcomes coöperation from the outside organizations, nevertheless it is of interest to society and of importance to medicine for us to retain our position in these affairs."

"The Bureau of Medical Economics," he said, "is just being organized and ultimately will have all available information regarding the cost of medical care. So much misinformation regarding economics is being broadcast that it is certainly our obligation and responsibility to set this aright. This means a great deal of study and work, and is a task for those who have had much experience in these activities. There are few actual practitioners of medicine on the five-year committee on the cost of medical care. The statistical work of the committee has been tremendous, and a great deal of information will be available. It seems to me that a Bureau made up of men from the Association would be better able to put the proper interpretation on the findings of this committee than would those in government and public health work alone. This bureau must have the best man power that can be obtained.

Doctor Judd made a plea for the establishment in each state of a committee on legislation as a part of the State Association as many states have and that methods be devised whereby these state committees may be kept in close contact with the Bureau of Legal Medicine and Legislation, to the end that both national and state medical legislation may be better looked after.

A new apportionment of delegates was made this year and every third year since 1925. With one delegate to every eight hundred members or fraction thereof, California and New York each gained a delegate, and Kansas, Maine, and Pennsylvania each lost one.

Legislation enacted by the House of Delegates included in the adoption of resolutions offered by the delegates the following:

A resolution was adopted calling upon Congress to abandon the policy of rendering medical and hospital benefits to veterans of the World War with non-service connected disabilities, and to substitute therefor a plan of disability insurance benefits with the following provisions:

First: The creation of a Bureau of Disability insurance in the Veterans' Bureau as now constituted.

Second: The issuance of a disability insurance policy to each veteran with a disability benefit clause as follows:

(a) The payment of a weekly cash benefit during a period of total disability; and

(b) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability; and

(c) Such other provisions as are necessary for the proper administration of the act.

It was further resolved that each state medical association be requested to form a committee whose duty it will be to approach the state and local Legion Posts throughout the country with a view to securing the adoption of this program by them.

It was felt that the government policy of building hospitals placed it in unnecessary and unjust competition with the civilian hospitals and the medical profession of the United States.

(See action of House of Delegates on this item as given in the preceding minutes.)

Dr. Ray Lyman Wilbur, Chairman, presented the report of the Council on Medical Education and Hospitals, which brought out some facts of interest and suggestions as follows:

The demand of hospitals for interns exceeds the annual number of graduates by about one thousand,

and it is getting increasingly harder for the non-accredited hospitals to get graduates to serve as interns.

It was resolved that acceptable medical colleges should assist all of their students in obtaining intern training, and that after the academic year 1933-1934 all acceptable colleges complete arrangements so that each annual announcement will contain a record of the hospital training of the graduating class of the year before.

It was resolved, too, that the Council on Medical Education and Hospitals pursue to its logical conclusion the investigations begun in regard to "repeaters" among medical students, to the end that unqualified students may not be graduated and commercially tainted medical schools may thereby be disorganized.

There is some fear that the Surgeon General's Library in Washington will soon be moved to a new location near the Walter Reed Hospital, some five or six miles from its present site. Those who have the matter in charge will be asked to place it in a building near the Congressional Library.

"It has been brought to the attention of the Judicial Council that some hospitals have adopted rules whereby attending staff physicians are prohibited, under certain conditions, from accepting fees for professional services, though charges for such services are made and fees are collected and appropriated to their own use by these hospitals. In one instance, members of a hospital staff were prohibited from the collection of fees for services rendered to certain ward patients who were required to pay for hospital accommodations and to pay for service rendered by members of its staff, the hospital retaining all money collected for its own use. Inquiries received indicate a tendency on the part of some hospitals to adopt rules providing for the collection of all fees by hospital officials and payment by them to attending physicians for their professional services to patients. The Judicial Council, on request, in one case gave its opinion to the effect that such procedure on the part of a hospital was unethical." This ruling was adopted by the House of Delegates.

Another proposal read as follows: "We especially condemn the examination of preschool children en masse in clinics, health units, and similar agencies. Such examinations cannot be but perfunctory, superficial, and unsatisfactory to physician and child alike."

To nullify the effects of the oft-recurring efforts of some local body or organization of physicians to speak for the whole body of medical men, it was pointed out that the American Medical Association is the largest body of physicians in the United States, representing every specialty, democratically organized, and including more than one hundred thousand physicians, is the one body, in organized medicine, entitled to speak for the vast majority of the physicians of this country.

The following resolution was introduced and referred to the newly created Bureau of Medical Economics:

Whereas, The rights and privileges of the individual physicians of the entire United States are involved and are being encroached on by the health and accident insurance companies, which are continuing to insist that the services of the physician in filling out claim proofs are part of the physician's obligation to his patient; that the insurance companies are unwilling to concede that the information given to them is for their own statistical use in properly adjusting claims and that they are unwilling to pay the physician for his fee; therefore, be it

Resolved, That the House of Delegates of the American Medical Association concur with and approve the action of the Michigan State Medical Society in adopting resolutions providing for the charging of a fee of not less than \$2 for each preliminary and final claim proof; and that the House of Delegates of the American Medical Association authorize its speaker to appoint a committee to whom this problem shall be referred.

Chicago made a bid for the 1933 meeting. This will be the year of her Century of Progress Exposition and World Fair. Cleveland also sent an invitation for that year.

Next April the annual meeting will be held in New Orleans. (Editor's Note.—The Board of Trustees of the American Medical Association has since then designated May 9-12 as the meeting days.)

Dr. E. H. Cary of Dallas, Texas, was made president-elect.

COMPONENT COUNTY SOCIETIES

BOXELDER COUNTY

The first meeting of the Boxelder County Medical Society since the summer vacation was held at Garland on September 24.

After the meeting a good supper was had at the Garland Hotel. General business methods for the doctors were discussed. Doctor Pearce submitted his resignation as secretary, owing to the many new duties connected with the state presidency for the coming year. Inasmuch as our president, Doctor Mahannah of Brigham has moved to California and the vice-president, Doctor Wardleigh of Snowville is away taking postgraduate work, it was decided to have our general election at the next meeting in Brigham on October 15. Doctors White, Merrell, Pearce, Betensen, and Weymuller were present.

Just before sending in this report I learned of the sudden death of our fellow member, Dr. Odeen Luke of Tremonton, due to an automobile accident. Doctor Luke was a graduate of the University of Pennsylvania, the class of 1921. He was a native son of Utah. We in the profession loved him. Among the people he was known far and wide as a doctor, a social and political leader, and a man's man.

R. A. PEARCE, Secretary.

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SALT LAKE COUNTY

The regular meeting of the Salt Lake County Medical Society was held on Monday evening, September 28, at the Salt Lake General Hospital. Fifty-five members and five visitors were present.

The meeting was called to order at 8:05 o'clock by President F. M. McHugh.

The minutes of the meeting of June 8 and August 31 were read and accepted without correction.

Dr. Alva G. Thomas was elected to membership.

The applications of Dr. J. Z. Brown, Jr., and Dr. F. R. Belokosy were read and turned over to the Board of Censors.

The society then went into executive session, and Dr. L. E. Viko reported for the Committee on Medical Charity Service. His report advocated the changing of the by-laws so that the annual dues for active members should be raised to \$25 a year. Associate members and those residing outside of the state are excepted. Dr. H. S. Scott moved that the report be accepted. This motion was seconded. Dr. G. Richards moved that this motion be laid on the table. Motion seconded and lost. The question was discussed by Doctors A. C. Callister, H. S. Scott, E. P. Oldham, D. L. Barnard, J. P. Kerby, E. M. Neher, L. C. Snow, Sol Kahn, J. R. Llewellyn, A. N. Leonard, W. F. Beer, W. T. Ward, and J. Z. Brown. The motion to accept the report was passed.

The clinical program presented the following topics: Ventral Hernia; Abscess of Lung; Obstructive Jaundice; Chronic Myelogenous Leukemia.

The meeting adjourned at 9:50 o'clock, after which refreshments were served.

* * *

The regular meeting of the Salt Lake County Medical Society was held at the Newhouse Hotel on Monday evening, October 12, at eight o'clock. One hundred and four members and one visitor were present.

The meeting was called to order at eight o'clock by President F. M. McHugh.

The minutes of the meeting of September 28 were read and accepted without correction.

The program was as follows: "European Clinics," by C. L. Shields; "Tularemia," by J. W. Sugden; "Future Plans of the State Training School," by B. W. Whitten (by invitation).

These papers were discussed by Dr. S. H. Scott and Dr. S. C. Baldwin.

The application of Dr. W. R. Middlemiss was read and turned over to the Board of Censors.

Dr. John Z. Brown, Jr., was elected to membership.

The question of changing the by-laws in order to create funds to be used by the Medical Service Bureau was then discussed by Doctors S. Stauffer, L. C. Snow, G. Richards, V. White, and H. S. Scott. Dr. L. E. Viko made an additional report for the Medical Service Bureau in which he said that he had received a letter from the County Commissioners endorsing the recommendation of this committee in their request for an additional social service worker. The letter also asked for a meeting with the committee to discuss the formation of a board of governors for the Salt Lake County General Hospital. Dr. W. F. Beer moved that the vote upon the amendments to the by-laws be made by secret ballot. This motion was seconded and carried. The amendments to the by-laws were lost by a score of 14 to 90. Dr. E. P. Oldham then moved that the society go on record as endorsing the work of the Committee on Medical Charity Service. Motion seconded and carried.

R. J. Alexander discussed for a few moments the abuse of charity by patients in the Salt Lake General Hospital.

BARNET E. BONAR, *Secretary*.

Deaths

Benedict, Chauncey Mott. Died August 29, 1931, age 56 years. Doctor Benedict was a graduate of Cornell University Medical College, New York, 1899; licensed the same year. Doctor Benedict was a member of the Salt Lake County Medical Society, the Utah State Medical Association, and the American Medical Association.

Luke, Odeen. Killed in an automobile accident October 9, 1931, age 42 years. Doctor Luke was a graduate of the University School of Medicine, Philadelphia, 1921. Licensed to practice, 1922. Doctor Luke was a member of the Boxelder County Medical Society, the Utah State Medical Association, and the American Medical Association.

The First Thanksgiving Proclamation.—Few Americans know that the original Presidential Thanksgiving Proclamation was lost for over a hundred years; that it was found at an auction sale in 1921; that it was bought by the Library of Congress for \$300; and that it now reposes in the archives of that institution—one of the most valuable documents in the world. The Division of Information and Publication of the George Washington Bicentennial Commission related the story in the House of Representatives:

"Resolved, That a joint committee of both Houses be directed to wait upon the President of the United States to request that he would recommend to the people of the United States a day of public thanksgiving and prayer, to be observed by acknowledging, with grateful hearts, the many signal favors of Almighty God, especially by affording them an opportunity to establish a constitution of government for their safety and happiness."

Harmless as this resolution seems, there were objections to it. In reading the Annals of Congress of that period, we find that Representative Aedanus Burke of South Carolina thought "we should not mimic Europe, where they made a mere mockery of thanksgiving."

Representative Thomas Tudor Tucker, also of South Carolina, argued that it was not the business of Congress to ask for a national day of Thanksgiving.

"They (the people) may not be inclined to return thanks for a Constitution until they have experienced that it promotes their safety and happiness."

These objections, however, were overruled; the resolution was passed and sent to the Senate for concurrence. The Senate approved and appointed its committee to wait on the President. The joint committee was made up of Ralph Izard of South Carolina and William S. Johnson of Connecticut, from the Senate; Elias Boudinot of New Jersey, Roger Sherman of Connecticut, and Peter Sylvester of New York, from the House.

Washington complied with the request and on October 3, 1789, issued his proclamation, calling for a national day of thanksgiving on Thursday, November 26.

And then the document dropped out of sight. It apparently was misplaced or attached to some private papers in the process of moving official records from one city to another when the Capital was changed. However, it happened, the original manuscript was not in the official archives until 1921, when Dr. J. C. Fitzpatrick, then assistant chief of the Manuscripts Division of the Library of Congress, and now editor of the forthcoming George Washington Bicentennial Commission series of Washington's Writings, "found" the proclamation. It was at an auction sale being held in the American Art Galleries of New York City. Doctor Fitzpatrick, an expert in Washingtonia, examined the document and found it to be authentic. It was written in long hand by William Jackson, secretary to President Washington at the time, and was signed in George Washington's bold hand. Doctor Fitzpatrick purchased the document for \$300 for the Library of Congress, where it is now kept as a treasure. And no amount of money could remove it.

The original Proclamation of Thanksgiving, and, indeed, the first presidential proclamation ever issued in the United States, reads as follows:

"By the President of the United States of America.
"Whereas it is the duty of all nations to acknowledge the providence of Almighty God, to obey his will, to be grateful for his benefits, and humbly to implore his protection and favor—and Whereas both Houses of Congress have by their joint committee requested me to recommend to the People of the United States a day of public thanksgiving and prayer, to be observed by acknowledging with grateful hearts the many signal favors of Almighty God, especially by affording them an opportunity to establish a form of government for their safety and happiness."

"Now, therefore, I do recommend and assign Thursday, the 26th day of November next, to be devoted by the People of these States to the service of that great and glorious Being who is the beneficent Author of all the good that was, that is, or that will be—That we may then all unite in rendering unto him our sincere and humble thanks—for his kind care and protection of the People of this country previous to their becoming a Nation—for the signal and manifold mercies and the favorable interpositions of his providence, which we experienced in the course and conclusion of the late war—for the great degree of tranquillity, union, and plenty, which we have since enjoyed—for the peaceable and rational manner in which we have been enabled to establish constitutions of government for our safety and happiness, and particularly the national One now lately instituted—for the civil and religious liberty with which we are blessed and the means we have of acquiring and diffusing useful knowledge; and in general for all the great and various favors which he hath been pleased to confer upon us."

"And also that we may then unite in most humbly offering our prayers and supplications to the great Lord and Ruler of Nations, and beseech him to pardon our national and other transgressions—to enable us all, whether in public or private stations, to perform our several and relative duties properly and punctually—to render our national government a blessing to all the People by constantly being a Government of wise, just, and constitutional laws, discreetly and faithfully executed and obeyed—to protect and guide all Sovereigns and Nations (especially such as have shown kindness to us) and to bless them with good Government, peace, and concord. To promote the knowledge and practice of true religion and virtue, and the increase of science among them and us—and generally to grant unto all mankind such a degree of temporal prosperity as he alone knows to be best."

"Given under my hand at the City of New York the third day of October in the year of our Lord 1789.

(signed) George Washington."

Celebration of Thanksgiving Day in America can be traced back to the earliest days of the Massachusetts Bay Colony. From there the custom spread to all parts of the United States.

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the twentieth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Galen Exhibit at the University of California Medical School Library.—The exhibition of medical uncinabula ("cradle books," printed before 1500) which has been on display at the University of California Medical School Library, San Francisco, has been removed to make way for an exhibition of material relating to Galen, the great Roman physician and first experimental physiologist. This year marks the eighteenth centenary of Galen's birth.

University of California Medical School Library.—Announcement has been made that the University of California Medical School Library will be open Sundays from 10 a. m. to 1 p. m. during the regular school semester, beginning October 4, 1931.

The Medical Library Packet Service, inaugurated by the University of California Medical School Library last year for the purpose of supplying physicians and medical institutions in the state with library service, has grown to such an extent that an average of over one hundred volumes per month have been loaned during the past six months.

San Diego Academy of Medicine.—Program for November meeting:

November 12—"The Anatomy and Physiology of the Sympathetic Nervous System, Especially in Relation to Its Clinical Aspect"—Dr. Albert Kuntz, professor of anatomy, St. Louis University.

November 13—"Diagnosis and Treatment of Intracranial Hemorrhage in the New-Born"—Dr. Clifford Grulee, professor of pediatrics, Rush Medical College.

Postgraduate Symposium on Heart Disease.—Encouraged by the widespread interest manifested in last year's heart clinics, the Heart Committee of the San Francisco County Medical Society and of the San Francisco Tuberculosis Association has decided to hold another clinical symposium on heart disease this autumn. In order to conserve the time of physicians from out of town, this symposium will be concentrated in one day—morning, afternoon, and evening of Thursday, November 19, 1931. The morning and afternoon sessions will be held at the San Francisco Hospital, the evening session at the San Francisco County Medical Society auditorium. All physicians will be welcome. Program will be mailed on request.

Coming Meetings.—American Society of Tropical Medicine, New Orleans, November 18-20. Benjamin Schwartz, M. D., P. O. Box 131, Pennsylvania Avenue Station, Washington, D. C., Secretary.

Association of Military Surgeons of the United States, New Orleans, November 30 to December 2. J. R. Kean, M. D., Army Medical Museum, Washington, D. C., Secretary.

Radiological Society of North America, St. Louis, November 30 to December 4. I. S. Trostler, M. D., 25 East Washington Street, Chicago, Secretary.

Southern California Medical Association, Hotel Roosevelt, Hollywood, November 13-14. Carl R. Howson, M. D., 711 Merritt Building, Los Angeles, Secretary.

Southern Medical Association, New Orleans, November 18-20. Mr. C. P. Loranz, Empire Building, Birmingham, Alabama, Secretary.

Southern Surgical Association, White Sulphur Springs, December 8-11. Robert L. Payne, M. D., 142 York Street, Norfolk, Virginia, Secretary.

Southern California Medical Society.—The eighty-fifth semi-annual meeting of the Southern California Medical Society will be held on Friday and Saturday, November 13 and 14, 1931, at the Hotel Roosevelt, Hollywood, Los Angeles.

This year's officers of the society are: Fred B. Clarke, Long Beach, president; William H. Barrow, San Diego, first vice-president; Philip Stephens, Los Angeles, second vice-president; Carl R. Howson, Los Angeles, secretary-treasurer.

Scientific Program

FRIDAY, 11 A. M.

1. A New Method of Treating Burns—Ralph T. Richards, M. D., Salt Lake City, Utah.

FRIDAY, 2 P. M.

1. Subtotal Gastric Resection—Eric E. Larson, M. D., Los Angeles.
2. The Gross and Cellular Response of the Pleura to Foreign Material and the Process of Its Elimination Through Lymphatic Tracts—Willis S. Lemon, M. D., Associate Professor of Medicine, University of Minnesota, Rochester, Minnesota.
3. Rabies (including a motion picture showing a case of human rabies)—Karl F. Meyer, M. D., Director, the George Williams Hooper Foundation for Medical Research, University of California, San Francisco.

FRIDAY, 6:30 P. M.

Dinner

Hotel Roosevelt

1. Talking Motion Picture: "The Thyroid"—George W. Crile, M. D., Cleveland, Ohio.
2. Prolapse of the Uterus—P. E. Truesdale, M. D., Fall River, Massachusetts.

SATURDAY, 9:30 A. M.

1. The Use of the Patch Test in the Diagnosis of Contact Dermatitis. (Due to external irritants such as plants, chemicals, cosmetics, etc.)—Samuel Ayres, Jr., M. D., Los Angeles and Nelson P. Anderson, M. D., Los Angeles.
2. The Care and Feeding of Premature Infants—Clifford G. Grulee, M. D., Professor of Pediatrics, University of Illinois.
3. The Relationship of the Autonomic Nervous System to Various Clinical Problems—Albert Kuntz, M. D., Professor of Microscopic Anatomy, St. Louis University School of Medicine.

SATURDAY, 2 P. M.

1. Medical Economics—Daniel Crosby, M. D., Oakland.
2. Primary Malignancies of the Lung. (Clinical Report of Experiences at Mayo Clinic.)—Willis S. Lemon, M. D., Associate Professor of Medicine, University of Minnesota.
3. Some of the Causes of Failure in the Treatment of Cancer—R. G. Taylor, M. D., Los Angeles.

CORRESPONDENCE

Subject of Following Letter: Comments on Article on Syphilis, by Dr. James E. Potter, Printed in August California and Western Medicine

To the Editor:—In the August 1931 issue of CALIFORNIA AND WESTERN MEDICINE (page 97) Dr. James E. Potter published an interesting article entitled "Syphilis—The Treatment of Wassermann-Fast and Cerebrospinal by Modern Methods." In that article Doctor Potter advocated the intravenous use of a bismuth product. To the undersigned's viewpoint, such a method of administering bismuth is not in keeping with current practice and is possibly, I believe, a dangerous one.

At least five deaths have been reported as having immediately followed the intravenous use of bismuth compounds. One of these, reported by Curtis,¹ occurred immediately after the injection of the same product (Loeser) as was used by Doctor Potter. In discussing this case² one of our leading chemotherapists stated, "I have always been opposed to the employment of bismuth products intravenously, owing to their high toxicity by this route." Following this same article the editor of *The Journal of the American Medical Association* remarks that the Council on Pharmacy and Chemistry and *The Journal of the American Medical Association* had warned against intravenous bismuth therapy.

Magnus³ reported a sudden death following an intravenous injection of bismuth ammonium citrate. Likewise, Duchateau and Verstraeten⁴ reported two deaths immediately after the intravenous injection of an aqueous solution of tartrobismuthate. Fraenckel⁵ added another fatality attributable to intravenous bismuth therapy.

In a very exhaustive study, "Intravenous Injections of Bismuth Compounds in the Treatment of Syphilis," Klauder⁶ found that in the experimental animal the therapeutic dose closely approached the maximal tolerated dose. In other words, when given intravenously the bismuth compounds had a very low therapeutic index. Although he found that bismuth given intravenously was of value in human syphilis he was quite cautious in recommending this method of administration. He says: "Considering the greater toxicity of the drug when administered intravenously, which necessitated limitation of dosage, and its rapid excretion, it is doubtful whether the intravenous route is more effective in the therapy of syphilis than the intramuscular route."

In view of the above findings of high toxicity for the intravenous bismuth products, one would feel inclined to stick to the older, safer and extremely valuable intramuscular bismuth products; at least until some Ehrlich synthesizes a new compound of bismuth which when given intravenously will be of low toxicity and high therapeutic value. References enclosed.*

H. J. TEMPLETON, M. D., Oakland.

* REFERENCES

1. Curtis, Stephen H.: Sudden Death Following the Intravenous Injection of Bismuth Tartrate, *J. A. M. A.*, 95:1588, No. 21 (Nov. 22), 1930.
2. Raizls, George W.: Sudden Death After Intravenous Use of Bismuth Tartrate, *J. A. M. A.*, 96:211, No. 3 (Jan. 17), 1931.
3. Magnus: Plötzlichen Todesfall nach Intravenösen Wis-mutelspritzung, *Klin. Wchnschr.*, 3:1275, 1924.
4. Duchateau, M., and Verstraeten, P.: Les Injections Intraveineuses de Bismuth dans la Paralyse Generale, *J. de Neurol. et Psych.*, 9:567, 1925.
5. Fraenckel, P.: Two Cases of Sudden Death Following Intravenous Bismuth Injection, *Deutsche Ztschr. f. d. ges. gerichtl. Med.*, 5:5, 1925.
6. Klauder, J. V.: Intravenous Injections of Bismuth Compounds in the Treatment of Syphilis, *Arch. Derm. and Syph.*, 17:332.

Reply of Dr. James E. Potter

United States Submarine Base
Coco Solo, Canal Zone

October 20, 1931.

To the Editor:

1. The criticism of my article by Doctor Templeton insofar as it applies to the routine use of intravenous bismuth is both interesting and constructive.

2. However, it appears to put me in the position of advocating the use of intravenous injections of a bismuth compound as a routine measure in the treatment of syphilis. I desire to correct this impression by emphasizing the fact that I do not advocate such use as a routine measure, but would reserve it as a means of final resort in the type of cases to which I refer in my article. Every one of the ninety-three cases reported was unusual and ordinary medication had failed to control the disease.

3. One must naturally decide between watching one's patient deteriorate from the ravages of the disease and the use of other modalities in the hope of controlling it, even though some danger may be entailed by the employment of a more drastic medication.

4. In view of the gravity of the cases reported, I feel that the exposure of the patients to the extra hazard of the drugs used was indicated.

5. The dangers following the use of intravenous bismuth are clearly outlined in the article.

6. Many deleterious effects have been reported as following the use of neoarsphenamin, yet when used in properly selected cases it is recognized as an excellent routine measure.

7. Since submitting my article for publication, additional patients treated bring the total of my series to one hundred and fifty-one. No deaths or severe reactions have followed its administration.

8. Hence in view of the foregoing and in properly selected cases, where the rapid absorption of bismuth is indicated, I must conclude that the treatment as outlined in my article is productive of more satisfactory results than the older methods.

JAMES E. POTTER, M. D.,

Lieutenant-Commander, (M. C.), U. S. Navy.

* * *

Subject of Following Letter: The Importance of Doctor Reed's Article on the Need of a California Institute on Tropical Medicine †

To the Editor:—A splendid article by Dr. Alfred C. Reed on Tropical Medicine was printed in CALIFORNIA AND WESTERN MEDICINE, September 1931, p. 185.

While appreciating the discussions given Doctor Reed's article, it seemed to me to be worthy of a special consideration. There are no cities in the United States more exposed to the dangers to health and commerce by the entrance of tropical diseases than are San Francisco and Los Angeles. We are apt to think only in terms of yellow fever and Asiatic cholera, while many more important and subtle infestations are gaining hold in this part of the country to spread to other localities.

Every intestinal parasite and the horde of spirochaetal and other tropical body-borne diseases are brought in at each one of these ports daily. We are thus far fortunate that our California snails, ticks, cockroaches, flies, rats and mice, ants and parrots, are no more infested than they are. Noguchi has shown the ease of transmission and the danger to health of flagellates on plants.

Many of the fruits, vegetables, finished fabrics, farm materials and factory supplies need careful scrutiny and supervision as a health protective measure, and the safety of commerce itself. All of these products should be so safeguarded that they will not be incriminated as disease carriers. Commercial enterprises such as the growing of hemp, the manufac-

† See editorial comment in this number of California and Western Medicine, page 332.

ture of sugar, the production of rubber, may at any time suffer enormously from the lack of the proper exercise of known health prevention in the protection of these industries. The proper safeguarding against the invasion of scale, boll weevil, or termites may save millions of dollars. The greatest source of scientific knowledge in this field is found in tropical medicine. Air transportation has added another enormously vital precaution to public health institutions.

I think this question is certainly vital enough to be a matter of consideration for the California Medical Association Council and also of a place on the program of the State Association during this coming year.

JOHN V. BARROW, Los Angeles.

CALIFORNIA MEDICAL HISTORY

CALIFORNIA MEDICAL ASSOCIATION CLINICAL AND RESEARCH PRIZES

Members of the California Medical Association from time to time have had their attention called to the two prizes for one hundred and fifty dollars each, which since the year 1926 have been offered by the Association for the two best papers presented at each annual session in the clinical and research prize competitions. In this issue of CALIFORNIA AND WESTERN MEDICINE the revised rules for entrants for these prizes are commented upon. (See editorial comment on page 380, and official notices on page 386.)

As a matter of historical record and as showing the nature of the subjects which, from the time the prizes were instituted at the annual session of 1926, have been awarded prizes or honorable mention, the following listing for the information of members is here inserted:

List of Clinical and Research Prize Papers—California Medical Association

Year Given	Name of Author	City	Topic	Clinical, Research or Honorable mention
1926	E. Bogen	Los Angeles	Arachnidism—A Study of Spider Poisoning	Clinical prize
1926	A. H. Rowe and H. Rogers	Oakland	A Study of Carbohydrate Tolerance in Normal and Nondiabetics	Honorable mention (Research prize)
1927	E. Bogen	Los Angeles	Diagnosis of Drunkenness	Research prize
1928	W. H. Leake	Los Angeles	An Electrocardiographic Study of the Effect of Emetin on the Rabbit's Heart	Research prize
1928	C. B. Courville	Loma Linda	A Study in the Pathological Physiology of Intracranial Neoplasms	Clinical prize
1929			(No awards given)	
1930	E. Bogen	Los Angeles	Pulmonary Hemorrhage	Clinical prize
1930	H. J. Hara	Los Angeles	Comparative Merits of Posture and Other Factors in Relation to Aspiration in Tonsillectomy	Research prize
1930	Mary Neff	Los Angeles	The Radicular Syndrome Following Infection with Tetanus	Honorable mention (Clinical prize)
1930	T. L. Althausen	San Francisco	Functional Aspects of Regenerated Hepatic Tissue	Honorable mention (Research prize)
1931	Eleanor Seymour	Los Angeles	Incidental Head Surgery—Its Effects on the Course of Pulmonary Tuberculosis	Clinical prize
1931	Esther Somerfeld and E. Ziskind	Los Angeles	Meningeal Allergy in Tuberculosis	Research prize
1931	S. Hanson	Stockton	The Narrow Bispinous Diameter	Honorable mention (Clinical prize)

STATE MEDICINE

Copies of some interesting correspondence dealing with the subject of "State Medicine," with special reference to the system in vogue in Great Britain, were printed in the September 17, 1931 number of the *New England Journal of Medicine*. The excerpts given below were from a letter written by Alfred Cox, medical secretary of the British Medical Association:

"I have never failed to impress upon American visitors my feeling that some extension of state medicine is bound to come in the United States and that the present depression will hasten it. Moreover, I am more strongly than ever of the opinion that it is up to the medical profession to furnish concrete ideas as to how this service should be given and not to wait until the politicians make a scheme of their own and force it on the profession. Our experience in England showed that the work we did on contract practice before the Insurance Act was introduced was invaluable, because it focused our ideas and made us more able than we should otherwise have been to put up a fight when the politicians came along with a scheme which we felt would be intolerable if put into action.

"Now as regards Doctor Dameshek's statements: I do not know that I have much to add to what I said in my papers in 1923. Our system on the whole has stood the test pretty well, except for one thing which is common to all systems of state medicine that I know of. The provision of cash benefits on an insurance basis, combined with the provision of medical attendance, seems always to lead to a lowering of the morale of the persons insured, or at any rate a tendency to get sick more easily. When I was a Club doctor in an industrial area it was a common experience to find that members of the Club, realizing that it was a mutual insurance affair, were generally most anxious not to make a claim on the funds if they could help it; but one sees no such reluctance now. The action of our Government and other Governments in giving considerable subsidies to people out of work has made them less self-reliant and more inclined to look for sources of easy income, and in this softening of the morale the medical profession has not been left untouched. It takes a strong man to resist an appeal for a certificate from a person who cannot be said to be malingering but who, the doctor feels, might, if he would muster up a little resolution, go on working with benefit to himself. And so you have the painful problem of a steady increase in the demands for the cash benefits which can only be secured on the production of a medical certificate. This is the problem which is worrying us most now and which we are doing our best to solve by instituting disciplinary procedure against men who are

proved to be slack in this matter of certification. The machinery has not come into operation yet, but it will do so shortly and one hopes that the very fact of its existence will be a warning to that minority who give certificates too easily.

"Of course, the out-and-out supporter of state medicine will say that if the doctor were on a salary and had no direct obligation to the patient he would not be so easy about giving certificates, but this I doubt. And even if such a system did succeed in making the doctor more strict as regards his certificates it would, in my opinion, tend to make him less of a human being dealing with human beings and more of an official dealing with people in the mass, a position which I, as a potential patient, cannot contemplate for a moment with equanimity.

"I still think the ideal method of getting medical attendance is to choose your doctor for yourself and pay him out of your own pocket, getting rid of him if he is not satisfactory. But experience all the world over shows that this ideal cannot be realized and on the whole I think the insurance system, where the insured person has to pay regularly out of his wages and knows he is paying; where he is allowed to choose his doctor from the list of the men willing to serve; and where the doctor is left free to do private practice among those who prefer to pay by the old method, is the best compromise we can get. I am as firmly opposed as ever I was to a complete state service. No doctor, it seems to me, can be a good doctor unless he is an individualist, and as a patient I do not want to be regarded as a member of a regiment, to be made fit to work as quickly as possible and with no waste of sympathy when I am ill. We have a complete state system in the Army, and men who have been there will tell you that it is all very good when you are really ill and require hospital treatment, but if you are suffering from something smaller which needs humane handling and a little human sympathy, you are not likely to get it because you are not regarded as an individual patient who has gone to the doctor he thinks is the best man for him, but as part of a crowd. . . .

"In some of the continental systems the politician has, of course, made life almost unendurable for the doctors. In Austria, at one time, when the socialists were in power, I am told that the Roman Catholic doctors were deprived of their insurance work; and when the Catholics came into power the socialist doctors were turned out. Heaven help us when the provision of medical attendance, a thing of such particular personal import to every individual, becomes the plaything of the politician. . . .

"I say nothing about Doctor Dameshek's examination of the position in Germany. I know the system there is very bad and the doctors very discontented. But the German system has never been so good as ours; inasmuch as it has been far more the plaything of the politician than ours has been, and the organized profession has had much less to do with the administration of the medical part of the system. . . .

"As the secretary of a medical organization with a great experience in these matters, I would with all my force urge similar medical organizations throughout the world not to shut their eyes to the developments that are going on and not to leave the politician to find the answer to the problem 'how are we to insure that our working population can get the medical attendance it deserves on terms which it can afford, and in a way which a self-respecting citizen, not desiring charity, can accept.'"

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Volume IV, No. 11, November 1906

From some editorial notes:

Four Years of Life.—In this present month of November, just four years ago, the first number of the *California State Journal of Medicine*, your own journal, made its appearance. We ask you to go back, in your mind, these four years and recall what they have meant to all of us. The starting of the *Journal* was entirely an experiment. The State Society had just reorganized, after much discussion and not little difficulty, and the plan of basing membership upon, and having it carried with, membership in a county society was new and untried. Before reorganization, the State Society had about three hundred members; immediately after the new plan was adopted and for months it had but few more. There were very few county societies in the State and most of those in

existence were more theoretical than animate. Such was the condition of things when the *Journal* was born. Naturally, it had few friends and a not inconsiderable number of enemies; would it live? Fortunately the friends which it had were not only strong, but loyal, and they fought its fight, and your fight—for it is your *Journal*—nobly and well. Sacrifices were made during those first months of which you have never heard and will never know; but the *Journal* lived and thrived; at first slowly, then more sturdily. . . . Now, after four years, the State Society has a membership, through its affiliated societies, of close upon two thousand physicians, and the *Journal* is established on a sound business basis which not even the catastrophe of last April could destroy, though it demolished the inflammable superstructure. It would seem that, in numbers and in machinery and in means for expression and communication, we have, in the State Society, the fundamental elements for an organization. . . .

Are We Doing All We Should?— . . . But is the attitude of our profession toward the people in this State all that it should be—all that we should make it? Does the organization for the formation of which some of our members have worked so hard and so faithfully really amount to what it should by virtue of its numbers and the standing of its individual members? . . .

Good Advice.— . . . Two years ago last April, at the meeting of the society for 1904, the then president, in his address, placed before us very clearly some essential truths. Have we remembered them or are they already forgotten?

"For a doctor to neglect personal attention to civic and political problems is selfish and unjustifiable. His educational advantages, his specific knowledge of sanitary requirements, his trained judgment, his self-restraint and poise in responsible situations, his familiarity with the vagaries of human nature, and the respect shown him by his fellow citizens, make him eminently qualified for executive work, and even leadership in civic affairs. The man of education, brains, and capability owes a certain part of his day to the community in which he lives, and to the associations with which his personal success and happiness are due. If he does not give it he is not doing his full duty to mankind. The greater the advantages he possesses the greater the call to serve his fellow man. Few men, as a class, have a greater personal capacity than physicians. Therefore, few owe more to the State."

Are we paying this, our debt to the commonwealth in which we live and in which we find "our personal success and happiness," honestly and fully and conscientiously? . . .

Some of Our Duties.— . . . We do not have to search for civic and professional duties to perform, nor for ways in which the potential strength which is in us should be brought out and directed. The people need guiding, educating, protecting; and it is through our societies and the individual members of them that this strength of our profession should be made manifest. . . .

Board of Examiners.— . . . A member of the Board of Medical Examiners in report to the society last April called attention to this subject in a most direct and forceful manner, and we bespeak your attention to his words, to be found elsewhere in this number. Certain amendments to our present law are required; can we venture to ask the legislature for them without the fear that, the door once opened for amendments, we can keep out any extraneous and undesirable ones? . . .

From an article on "Thorough Organization the Present Need of the Medical Profession" by George H. Aitken, M.D., Fresno.

The old adage, "In union is strength," was never better exemplified than in the great industrial and

* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

commercial undertakings of the day. Organization and coöperation have become synonymous with progress and reform. . . .

From an article on "Proprietary Medicines" by A. Jacobi, M. D., LL. D., New York.

Goethe once said that the most interesting book that could be written would be a treatise on human errors. In that book, large like a library, the history of quackery—well meant or deceitful—would fill a large place. . . .

From an article on "A Case of Pleural and Pericardial Effusion" by William Watt Kerr, M. A., M. B., San Francisco.

Your committee on program requested me to read a paper before this society on some topic relating to pleural effusion, but further stipulated that my effusion should not occupy more than the space of fifteen minutes. . . .

DEPARTMENT OF PUBLIC HEALTH

By GILES S. PORTER, M. D.
Director

Presidential Address, Health Officers' Section, League of California Municipalities, Monterey, September 21, 1931.—Public health conditions in California, generally, have been very good since the last meeting of this organization. We met last year in the midst of an extensive outbreak of *acute epidemic poliomyelitis*. Fortunately, this year we are escaping the outbreak of this disease which is sweeping through eastern and middle western states. We have nothing new to present in the control of this disease. Prompt discovery of cases, isolation, complete rest in bed and immediate administration of serum still constitute our most effective weapons in dealing with poliomyelitis. The amount of residual paralysis following last season's outbreak in California was not so extensive as believed at first. Surveys made under the provisions of the so-called Crippled Children's Act have brought to light many cases of paralysis and muscle weakness which have been placed under treatment. This Act is a valuable piece of legislation and you will learn more of its operation at a coming session of this convention. The contrast between 449 cases of epidemic poliomyelitis reported in July of 1930, against twenty-four cases reported in July of 1931, is very great. Next year we may not be so fortunate. It is very important that health officers be alert to discover cases of this disease that may occur during the late winter and spring. Very often an increased prevalence at this season of the year is a forerunner of what is to come in late summer and fall and thorough reporting of cases is particularly valuable in determining an index. The general public justifiably fears this disease—more, perhaps, than any other, and we have certain responsibilities in providing as full and complete information relative to its prevalence and control as may be available.

Smallpox has almost disappeared from the state. There were but twenty-eight cases of this disease reported last month, but in January of the present year there were 457 such cases reported. There is nothing new to be said regarding the control of this disease. It is an axiom that smallpox does not become epidemic in a community 50 per cent of whose residents have been successfully vaccinated. Health officers who are fortunate in having sufficient funds to provide equipment and personnel for this work are able to keep their communities free from smallpox epidemics.

Not a single case of *human plague* has occurred in California since September 1928. This provides no excuse for not maintaining a close watch on this disease, however. Infected rodents are discovered with

considerable regularity and sooner or later cases in human beings are liable to occur. I would ask health officers to watch particularly for pneumonia, and especially groups of pneumonia cases that may be suspicious of plague. When this disease appears it is liable to sneak in the back door and whether it appears in its bubonic, pneumonic or septicemic form we must be alert to detect it.

Epidemic meningitis has not caused as much trouble as it did two and three years ago, but the status of the disease is such that great vigilance is required in its control. We have been spared, recently, the risk of cases of this disease that might be imported from Oriental ports. There is no doubt, however, that we always have a certain number of carriers of this disease in our midst and there is a possibility that carriers among Filipinos and other Orientals play some rôle in the transmission of the disease among the general population.

Typhoid fever remains in a nominal state of control. With a typhoid death rate of less than two per 100,000 population we may well be proud of our record in subduing this disease. When the problems involved in ditch water, irrigation canals, and stream pollution are considered, we may well wonder that we have been able to obtain so low a typhoid death rate. If we were able to solve these problems definitely, it is probably that we might achieve a death rate of less than one per 100,000 population.

Measles, during the past year, has ridden on its periodical high wave. In April of this year 7372 cases of the disease were reported in California. It has now dropped to 197 cases reported last month. There have been more than 27,000 cases reported this year, which number is not as high as has occurred in many preceding waves.

Diphtheria, during the past year, has been on good behavior. The extension of immunization programs has been a factor in this, but not the only factor. As time goes on we come to the realization that the control of diphtheria is dependent upon many factors and that cases of this disease will occur in spite of our efforts to control it. Treatment, the use of virulence tests and careful supervision of patients are also important factors in the prevention of diphtheria. Immunization is a most valuable procedure, but along with it there must be the continued exercise of old stand-by control measures. No plan for diphtheria control is complete without the employment of a small arsenal of weapons.

Scarlet fever, in mild form generally, has been quite prevalent during the past year. The same is true of whooping-cough. It is unfortunate that the mothers of very young children are not better informed relative to the great danger involved in the contraction of whooping-cough. It would seem that educational work in checking whooping-cough among very young children may be one of our greatest opportunities to save infant lives. In 1930, 198 children in California died of whooping-cough, and 185, or 93.4 per cent, of them were under four years of age. Health centers and clinics might well concentrate on the problems presented by this disease which takes so many young lives.

Nine cases of *relapsing fever* have been reported in California this year and five such cases were reported in 1930. All of them occurred in certain mountain counties of both northern and southern California. Sources of infection for some of these cases were in other neighboring states. With the assistance of Dr. K. F. Meyer, consultant to the State Department of Public Health, and Professor W. B. Herms of the University of California, intensive investigations into this disease as it appears in California, have been undertaken. Definite conclusions relative to the vector involved in the transmission of the disease have not been determined, but it is probably one of the ornithodoros ticks. This disease was made reportable in California July 11, 1931. Cases occur generally in June, July, and August, but they may appear in September as well as earlier in the season. The State Department of Public Health

and Doctor Meyer would appreciate an immediate report of any cases that may be suspicious of this disease.

Certification of Laboratories in California.—Dr. Wilfred H. Kellogg, Chief of the Bureau of Laboratories of the State Department of Public Health, has written an article entitled "The Certification of Laboratories in California" which is printed in the September issue of the *American Journal of Public Health*. The development of the plan for the certification of laboratories in this State has attracted a great deal of attention throughout western states, and it is believed that many other states throughout the country will adopt similar plans within their respective public health organizations.

Changes of Health Officers.—Avalon, Los Angeles County, is now under the supervision of the Los Angeles County Health Department. Dr. J. H. Hutton has been appointed health officer of Calipatria to succeed Dr. H. J. Havalick. Willow Glen, Santa Clara County, has come under the supervision of the Santa Clara County Health Department. Dr. Henry S. Rogers succeeds Dr. G. R. Hubbell as health officer of Petaluma.

Two Children Die of Rabies.—During the month of May two California children died of rabies, one in Los Angeles and the other in Fresno County. The wounds were not cauterized following the dog bites. The Los Angeles child was bitten April 21. The eyelid was lacerated and there was also a deep laceration on the forehead, but the eyeball was not injured. The antirabic treatment was started April 25, but symptoms developed May 12 and death followed the next day. The dog which bit the child was proven rabid and Negri bodies were demonstrated in the child's brain. The Fresno County child was bitten April 12 on the face. Antirabic treatment was started April 17, but symptoms of the disease developed May 11 and death occurred on the 15th. The dog which bit this child was killed by people in the neighborhood and the head was not submitted for examination.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By CHARLES B. PINKHAM, M. D.
Secretary

Results of Board of Medical Examiners' Examination
San Francisco, July 7-9, 1931

Charles B. Pinkham, M. D., secretary-treasurer of the Board of Medical Examiners of the State of California, reports the results of the written examination held in San Francisco, July 7 to 9 inclusive. The examination covered nine subjects and included ninety questions. An average of 75 per cent is required to pass. An allowance of one per cent added to the general average is permitted by the Medical Practice Act for each year of medical practice, provided the applicant has not received less than 60 per cent in more than one subject. A total of 131 graduates of medical schools wrote the examination, of whom 126 passed and 5 failed. The percentage of failures (3.8 per cent) was the lowest recorded for several years and indicated the high standard of our modern medical schools. The following colleges were represented:

College	PASSED	Year of Graduation	Per Cent
College of Medical Evangelists.....	(1931)	87 7/9, 81 8/9	
Creighton University School of Medicine.....	(1931)	87 6/9, 88 6/9	
		80 6/9, 84 5/9, 77 8/9, 79 5/9, 88 4/9, 80 4/9	

Jefferson Medical College.....	(1930)	82 4/9
Loyola University School of Medicine.....	(1931)	85 5/9
McGill University Faculty of Medicine.....	(1930)	84, 84 5/9, 87 1/9
Northwestern University Medical School.....	(1930)	82 8/9, 82 2/9
		86; (1931) 84 3/9, 90 7/9, 82 7/9, 85 2/9, 83 4/9, 87 4/9
Rush Medical College.....	(1921)	79 7/9; (1931) 86 4/9
Stanford University Medical School.....	(1930)	87; (1931) 86 3/9
		86 8/9, 90 4/9, 89 1/9, 88, 88 2/9, 88 5/9, 89 7/9, 83 8/9
		85 3/9, 86 5/9, 85 4/9, 86 3/9, 87 5/9, 89 4/9, 84 6/9, 84 6/9
		79 8/9, 89 2/9, 84, 86 3/9, 88 6/9, 83 6/9, 85 1/9, 89 4/9
		84 8/9, 82 3/9, 87, 83 8/9, 89 7/9, 88 2/9, 89 4/9, 85 2/9
		84 7/9, 87 6/9, 91 5/9, 83 2/9, 84, 85 3/9
Tulane University School of Medicine.....	(1931)	85 7/9
University of California Medical School.....	(1931)	80 5/9, 88 2/9
		93 5/9, 90 5/9, 87 7/9, 87 5/9, 90 8/9, 84 3/9, 82 6/9, 88
		88 6/9, 82 5/9, 80 1/9, 79, 89 6/9, 86 7/9, 85 4/9, 80 5/9
		89 2/9, 85 4/9, 88, 83 8/9, 91 7/9, 86 2/9, 77 8/9, 84 2/9
		89 6/9, 91 8/9, 88 8/9, 86 5/9, 87 4/9, 82 8/9, 88 2/9, 85 5/9
		85 7/9, 83 2/9, 85 6/9, 87, 83, 84 5/9, 85 2/9, 82, 85 1/9
		76 6/9, 86 2/9, 83, 87 5/9, 87 3/9, 79 8/9, 85 2/9, 85
University of Illinois, College of Medicine.....	(1931)	86 1/9
University of Minnesota Medical School.....	(1928)	81 7/9; (1930) 84 7/9
University of Pennsylvania, School of Medicine.....	(1929)	82 2/9
University of Rochester Medical School.....	(1929)	91 6/9; (1930) 77 3/9

FAILED

Bordeaux (France) Faculty of Medicine.....	(1930)	65 8/9
Creighton University School of Medicine.....	(1930)	67 5/9; (1931) 71 7/9
University of Amsterdam (Holland).....	(1901)	65 7/9
University of Tomsk (Russia).....	(1913)	64

State Board News Items, November 1931

On September 25, 1931, the Appellate Court, Northern Division, rendered an opinion (67 California Appellate 60) sustaining the Board of Medical Examiners in its revocation of the license of Pearl J. Anderson, based on a charge of aiding and abetting an unlicensed practitioner named Clodine Brown, then alleged to be operating the S. J. Bridge Cancer Cure, Majestic Theater Building, Los Angeles.

"A movement by the San Joaquin and other chapters of the California Association of Chiropractors to permit patients in public hospitals to be treated by chiropractors if they desire has resulted in official negotiations toward that end by the California State Board of Chiropractic Examiners . . ." (*Stockton Record*, September 30, 1931).

"The state has the right to enact a statute prohibiting the use of the initials 'M. D.' after the name of any person who shall not have been admitted to practice medicine within the state, according to a decision by the Appellate Department of the Superior Court today. The decision, written by Presiding Judge Victor R. McLucas and concurred in by Judge Leon R. Yankwich, upheld the conviction of Orin Joslin for holding himself out as a physician and using the M. D. after his name . . ." (*Los Angeles Herald*, October 15, 1931).

"Unearthing what they believed was a scheme to prey upon wealthy women by prescribing narcotics for them in the guise of a harmless prescription, police and federal officers today broke into the hotel room of Henry Miller, thirty-seven, at 6370 Lexington Avenue, and arrested him on felony charges of violation of the State Medical and Poison Acts. The raiders confiscated alleged forged membership cards of the California State and Los Angeles County Medical Associations, asserted forged narcotic prescriptions, two vials of morphin and heroin tablets and a complete hypodermic set. According to Narcotic Inspector Moody and Policemen Maney, Bailey, Christopher, and Edmonds, Miller, under the name of Dr. E. N. Young, M. D., forged stolen narcotic prescriptions and obtained morphin, a quarter of a grain of which he placed in otherwise harmless powder,

then given his patients, with surprising results. . . . His first step in the alleged scheme to make drug users of his patients, according to officers, was to give those who called upon him for treatment what he called a 'tonic' prepared with morphin, which he made up himself. Then when the narcotic habit had firmly gripped the victims, Miller assertedly forged narcotic prescriptions, by which his patients could obtain drugs from Hollywood pharmacies" (Hollywood *News*, October 9, 1931).

"Conrad J. Anderson, who assertedly treated patients with 'Cosmic Rays' emanating from his trembling finger tips, yesterday was fined \$500 by Municipal Judge Frank M. Smith for practicing medicine without a license" (Los Angeles *Illustrated Daily News*, September 25, 1931). "His cosmic-ray treatments given Mrs. A. E. Hoover, 1122 Wesley Avenue, Pasadena, for which he charged the woman's family \$1200, resulted in his arrest after Mrs. Hoover's death" (Los Angeles *Express*, September 22, 1931).

"Charles H. Bell, man of many aliases, according to the police, is held in the city prison on a grand theft charge. (He) is in reality an ex-convict with twenty-five aliases, police said, chief of which was the name of Dr. Charles H. Hudson. . . . The man, identified through the work of Lieutenant Emmett Hogan of the Identification Bureau here, is a Columbia University graduate, an ex-Army officer, and a Doctor of Medicine. At one time, according to information obtained by Hogan, there were three hundred complaints against Hudson in Chicago alone. . . ." (San Francisco *Call-Bulletin*, October 13, 1931).

"The mysterious death in a Chico hospital last night of a 32-year-old man a few hours after he had suddenly collapsed in the office of J. W. Conway, 'Indian Herb Doctor,' was today made the matter of an official state investigation. . . . The man is Harry Dobson, a laborer of Corning. . . . Questioned by authorities, Conway denied he had ever given any herbs to Dobson; however, a brother of the dead man said Dobson had been treated by the Indian herbalist for some time past. . . . Conway has been in trouble with the State Board of Medical Examiners on several occasions and is awaiting trial on the fourth charge of violation of the Medical Practice Act that has been preferred against him" (Sacramento *Bee*, October 15, 1931).

"Two 'witch doctors' were freed today on their promise to the court to desist from voodooistic practices. Mercedes de Ortiz, forty-five, was released in Judge Oda Faulconer's court on one year's probation under a sentence of 180 days in the county jail. The sentence was suspended on the woman's promise to refrain from practicing medicine in violation of the State Medical Practice Act. . . . Her activities were uncovered by state authorities when they investigated the death of the infant Eduardo Perez, nine months' old son of Mr. and Mrs. Bartolo Perez of 1661 East 111th Place. . . ." (Los Angeles *Express*, September 25, 1931).

According to reports, Conrad F. Holst was on September 24, in the Municipal Court of Los Angeles, sentenced to pay a fine of \$500 or serve one hundred days in the county jail, following his being found guilty of a charge of violating the Medical Practice Act. The fine was paid.

"Renewing the State Medical Board's drive to rid Los Angeles County of 'voodoo witch doctors,' Special Agent William Byrne sped to San Bernardino today in search of Raoul S. Dosal. . . ." (Los Angeles *Express*, September 28, 1931). Dosal is alleged to carry with him a rubber stamp reading "Dr. R. S. Dosal, 1049 Grandee Ave., Los Angeles, California" and is alleged to have entered the darkened bedroom of a sick infant, where he claimed to have given the child three injections. The child became worse, a doctor was called, but "the child died soon after." No

record can be found of any individual of this name having medical credentials.

"Strange stories sometimes are recorded in court opinions after the parade of humanity's struggles passes by, but seldom has a more unusual case been found than that of Lloyd E. Tilbury and his radio treatment, which is involved in an opinion written by Superior Judge Joseph L. Allen of Santa Ana while he recently was on the Fourth District Appellate Court bench at San Diego. Fact outstrips fiction in the bizarre enactment of the drama which ended with the Appellate Court's affirming the \$30,000 judgment against Tilbury, a Los Angeles osteopath, after the condition of nine-year-old Jodell Kershaw of Los Angeles had become steadily worse under his radio treatment. The story, as told in Judge Allen's opinion, began when the little girl's mother, Della Kershaw, decided that an operation for pus forming in the bone of one leg would leave a scar which would end her promising career as a dancer. She asked a friend to find out if Tilbury could cure the trouble without an operation. After a 'phone call to Tilbury he sent word for the girl to write her name on a piece of paper and send it to his office. Then the radio system came into play. Tilbury placed the paper under a metal plate connected with his radio diagnostic machine and with the cooperation of his wife, Helen L. Tilbury, determined that Jodell had a severe pain in her left leg and hip. A part of the apparatus consisted of a rubber rod filled with woolen cloth. This rod Tilbury rubbed over his wife's bared abdomen, meanwhile turning the dials on the diagnostic radio, some of which were used for tuning in on different kingdoms, such as the animal, vegetable and mineral kingdom. . . . The girl was brought to his office and electrodes connected with the machine were placed on the girl's neck, stomach, and leg. Tilbury turned the dials on the device and as he rubbed the rubber rod again over Mrs. Tilbury's abdomen she exclaimed, 'Yes, that is the pain in the leg; it is a very bad pain.' The next step was to discover the treatment for the pain. Mrs. Tilbury secured a bottle of vinegar and her husband placed it in connection with the metal plate and the radio box. Again he rubbed the rubber rod over his wife's stomach and, after a moment he said, 'Yes, vinegar is fine; we will use hot vinegar stupes for the affected parts, for the pain in her leg.' From July 17 to August 14, 1927, little Jodell received radio treatments, another part of which consisted of wrapping her in a magnetic blanket. In the meantime Tilbury and his wife had gone on a vacation. The opinion then related how a Doctor Peterson and a nurse continued the series of events. Jodell's mother wished to know what food was best for her, so the nurse was sent out for an assortment of fruit, which was given the usual test on the metal plate, while Doctor Peterson rubbed the rubber rod over the nurse's bared stomach. He finally pronounced that all the fruit, with the exception of the oranges, would be satisfactory. The little dancer continued to get worse and finally, alarmed at the condition of the leg, the mother had Jodell taken to a hospital, where she was operated upon, not once but several times, in an attempt to save her leg. The opinion said she probably would suffer for years from the condition in her limbs" (Santa Ana *Register*, September 18, 1931).

The Board of Osteopathic Examiners revoked the license of Lloyd E. Tilbury on March 30, 1929.

The Effect of Cooking on the Digestibility of Meat.—Raw meat is digested *in vitro* much more slowly than cooked meat. Overcooked meat is very slowly digested as compared with underdone meat. The maximum rate of digestion is obtained with underdone roast meat. Rewarmed underdone meat does not diminish its digestive rate. Reheating with consequent overcooking diminishes the rate of digestion. The rate of digestion of meat (raw or cooked) is the same whether trypsin alone be used or pepsin followed by trypsin.—W. M. Clifford, *Biochem. J.*, 24:1728, 1931.